

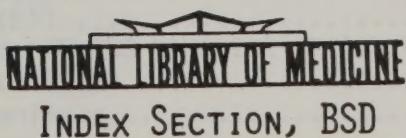
TECHNICAL NOTES

MEDLARS
Indexing Instructions

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MEDLARS
INDEXING INSTRUCTIONS

BY
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1983

TECHNICAL NOTES
MEDLARS INDEXING INSTRUCTIONS

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TECHNICAL NOTES

MEDLARS INDEXING INSTRUCTIONS

INTRODUCTION

This is the fourth edition of TECHNICAL NOTES, revised to conform to the 1984 MEDICAL SUBJECT HEADINGS (MeSH).

The 230 notes in 119 pages of the third edition in 1975 were amplified through the years by dissemination to indexers in house and to searchers through the NLM TECHNICAL BULLETIN by the addition of 14 more, bringing the total to 243 notes in 148 pages.

The present edition contains only 114 notes. Many were not transferred from the third edition because their content could be and was briefly stated in the form of a MeSH annotation. In the present ANNOTATED MeSH no mention is made of these eradicated TECHNICAL NOTES.

The 114 TECHNICAL NOTES here do not run in numerical sequence. A renumbering of the remaining culled notes to make all entries consecutive was considered but the number of input transactions necessary to modify the ANNOTATED MeSH was formidable and not worth doing merely to preserve numerical and alphabetical sequence.

Earlier editions of TECHNICAL NOTES contained a melange of indexing instructions, admonitions, and cautions about indexing policy that did not figure in MeSH ANNOTATIONS and yet merited special consideration beyond the MEDLARS INDEXING MANUAL. This edition distinguishes between general policy notes and notes about MeSH headings. The policy notes are numbered TN A, TN B, TN C, etc., and will continue to be issued with letter designations if policy is at issue. The figures TN 1, TN 2, etc., will be reserved for notes about MeSH terms and their use. Strong emphasis continues to be placed on instructions for terms made IM (appearing in INDEX MEDICUS) and NIM (those stored in the MEDLARS computerized data base).

This edition contains both a table of contents and an index.

As stated in the third edition, it is expected that after MeSH and the MEDLARS INDEXING MANUAL, the TECHNICAL NOTES will be used by indexers and searchers as the authority on indexing practices, discussing concepts lying half-way between the generalities of the INDEXING MANUAL and the specificities of MeSH annotations.

The source of subjects discussed in TECHNICAL NOTES is queries and problems posed by indexers and searchers. The notes have been prepared with the participation of revisers and specialists in Index Section and elsewhere in the National Library of Medicine.

A. Article examination

This is an amplification of Section 4.4 of the MEDLARS INDEXING MANUAL on ARTICLE EXAMINATION prior to the actual selection and assignment of headings for an article to be indexed.

The steps there outlined are in sequence by logic and should be followed routinely for every article.

1. Read and understand the title.
2. Read the introduction down to the point where the author states the purpose of his article.
3. Observe chapter headings, section headings, boldface segments, italics, paragraph by paragraph.
4. Read the summary and/or conclusions.
5. Scan the bibliography.

This is the physical operation. Intellectually you are making various judgments as below.

B. Analysis

1. Weigh the significance of the general versus the specific in the title and the text. This is important since MEDLARS leans toward maximum specificity.
2. Absorb but do not necessarily attempt to index all facets of the introductory material since this is usually a statement of past facts (usually already indexed in previous journals) upon which the present study is based.
3. Index what is discussed, not what is merely mentioned.
4. Weigh conclusions based on text and index accordingly. Do NOT index implications or future suggested applications. Do NOT index conclusive statements NOT supported by discussion in the text.
5. Read the abstract only to confirm your own indexing but do not index abstract material unless it is also discussed in the body of the article.
6. Scan the author's indexing (keywords, etc.) if given to see whether the concepts he chose are discussed in the article and already picked up by you.

..

C. Sequence of indexing

You must type the MeSH terms on the data form IN THE ORDER IN WHICH THE CONCEPTS APPEAR IN THE ARTICLE. Do not skip around. It is impossible in depth-indexing for a reviser to locate the text to which you have assigned a heading if you skip hither and yon.

A reviser revises page by page, paragraph by paragraph, section by section, to see whether you have indexed the article completely. You must index IN THE SAME SEQUENCE in which the concepts picked up by you appear in the text.

The agreed-upon logical sequence will make the revision operation less painful and the indexing operation more complete. It is not by accident that the alphabet is recited or filed in this universal order in this country: ABCDEFGHIJKLMNOPQRSTUVWXYZ. Revise the following for completeness of depth-indexing: FJAXREVYMWCIKNOBHLUDSQGTZ. Which letter (paragraph? main heading? coordination?) is missing?

D. IM and NIM

Most journals publish articles, the titles of which truly reflect the contents. These concepts, moreover, tend to be easily verifiable in the "Purpose of this study is to" portion of the text. These concepts will tend to be the first concepts to be indexed and the first to be IM.

E. Coordination

Attempt to coordinate in sequence if possible, typing the coordination in pairs.

HEPATITIS B /immunology
HEPATITIS B SURFACE ANTIGENS
HEPATITIS B /complications
AGAMMAGLOBULINEMIA /etiology

is a better coordination than

HEPATITIS B /complications
HEPATITIS B SURFACE ANTIGENS
AGAMMAGLOBULINEMIA /etiol
HEPATITIS B /immunology

Multiple subheadings

This discussion amplifies Section 19.7 of the MEDLARS INDEXING MANUAL. Indexers have been asked to follow this dictum as standard policy:

Index a main heading as IM only once. It may be IM with or without a subheading; the same term may be NIM with numerous subheadings.

Indexers are encouraged to avoid the use of an indefinite number of overlapping subheadings - despite their specificity - by treeing them by Figure 19.7 reproduced at the end of this Technical Note from the Indexing Manual.

1. Index a main heading as IM only once, with or without a subheading.
2. If the text discusses all aspects equally, index the main heading without a subheading IM and attach a maximum of three subheadings to the same main heading NIM.
3. Use the subheading trees to choose among overlapping subheadings if it appears that you will need more than three.

In choosing the subheading to be paired with the main heading for the IM, rely on this progression of hints:

1. What is the major subheading of the title?
2. What is the real tenor and purpose of the article?
3. What is the subject specialty of the journal?
4. What is the specialty of the author?

Confronted with a choice between /pathology and /diagnosis as IM, the indexer choosing /pathology in a journal of pathology is probably wise. It is also reasonable to choose /pathology as IM if the author is known - from his degrees or his address - to be a pathologist. Use discretion.

It is easy to understand why an indexer needs the same main heading with four, five or six different subheadings: authors very often actually discuss each of the facets of a subject which the indexer faithfully represents by corresponding subheadings. This is especially true in very long articles and in monographs.

While it is reasonable to index articles with multiple subheadings which are sharply distinct, e.g., /etiology and /metabolism or /occurrence and /physiopathology, too often we index under multiple subheadings those which too closely overlap, like /metabolism-/blood-/analysis or /physiology-/secretion-/metabolism, even /adverse effects-/poison-

ing-/toxicity. The fields of physiology and biochemistry generate the greatest number of multiple overlappings.

Every attempt should be made to analyze a potential multiple overlapping, redundant over-use of related subheadings. It is possible to tree common subheadings in the same way that main headings are treed. See the chart at the end of this Note. It is useful in giving clues toward possible grouping of subheading concepts.

When tempted to index the same main heading with multiple subheadings, stop: index them instead as economically as possible using the tree concept. Avoid a multiplicity where it serves no useful purpose. With other terms on the data form, little is achieved by indexing under HEART /physiology + HEART /physiopathology for heart function.

When a specific subheading is needed as the partner to a coordination, the subheading trees and their economies should not be resorted to. Do not sacrifice coordination to treeing merely to avoid redundancy.

SUBHEADING TREES

The treeing of overlapping subheadings and the number of subheadings used with the same main heading are discussed at length in 19.7 and 19.8 respectively.

The groupings below are subheading trees. They are suggestive toward avoiding an unnecessary multiplicity of redundant, overlapping subheadings which fragment the content of an article and serve no useful purpose in retrieval.

- /anatomy & histology
 - /blood supply
 - /cytology
 - /ultrastructure
 - /embryology
 - /abnormalities
 - /innervation
 - /pathology

- /physiology
 - /genetics (D)
 - /growth & development
 - /metabolism
 - /biosynthesis
 - /blood
 - /cerebrospinal fluid
 - /deficiency
 - /enzymology
 - /secretion
 - /urine
- /physiopathology

- /therapy
 - /diet therapy
 - /drug therapy
 - /nursing
 - /prevention & control
 - /radiotherapy
 - /rehabilitation
 - /surgery

- /pharmacodynamics
 - /administration & dosage
 - /adverse effects
 - /poisoning
 - /toxicity
 - /therapeutic use

- /analysis
 - /blood
 - /cerebrospinal fluid
 - /enzymology
 - /isolation & purification
 - /urine

- /etiology
 - /chemically induced
 - /congenital
 - /familial & genetic (C)
 - /immunology
 - /microbiology
 - /parasitology
 - /transmission

- /diagnosis
 - /enzymology
 - /immunology
 - /microbiology
 - /parasitology
 - /pathology
 - /radiography
 - /radionuclide imaging

Figure 19.7

TN "Monographic articles"

C

The Scandinavian Acta series is representative of what we are calling here a "monographic article": a single issue or number devoted to one article. DM, DISEASE-A-MONTH, is another example of this type.

A monograph or monographic article should have only ONE data form under the authorship of a single writer or of co-authors. While the chapters should be analyzed and covered by main headings, a separate data form should not be made for each chapter. "Monograph" means "one writing".

There is a question about the indexing of introductory material in this type of article. Some have said that they ignore the introduction and get directly to "material and methods." This is quite wrong and possibly a misinterpretation of instructions given elsewhere in another context.

In the ordinary article, the indexer is told to disregard preliminary sentences or paragraphs which review work done previously in the area of the research in hand. Indexers have been told to bypass these preliminary statements and to get down to the point where the author states, "The purpose of this study is to"

Many of the Acta series items are in reality theses for advanced degrees and follow a pattern requiring a review or history of the subject before the candidate presents his data in his thesis.

Often this preliminary material is four, five or more pages long. This can hardly be compared with the few introductory sentences mentioned above from an ordinary article. Nor can it be dismissed.

The original intent of the admonition in the Indexing Manual (12.2. 14) was to caution indexers against making these Scandinavian Acta supplements review articles. But even there the indexer is reminded that it could be a review.

The question, then, is not whether the supplement is a review article, but whether this significant introductory material is indexable. Since it is substantive, it should be covered in depth-indexing, and accorded headings ordinarily given to any material picked up in the usual paragraph-by-paragraph indexing of concepts discussed. The indexing of content of articles applies to all articles, regardless of form.

TN
D

Selection of articles in selectively indexed genetics journals

Many of the journals indexed in INDEX MEDICUS in the field of genetics are selectively indexed. In the application of criteria toward selectivity certain premises must be accepted: that we do recognize the universal importance of genetics and genetic research; that the principle of selectively indexing journals in INDEX MEDICUS can be applied to genetics; that not all articles in the field of genetics have application to human or other vertebrate genetics; that not all aspects of genetics demand indexing in INDEX MEDICUS.

The MeSH coverage of genetic terms is excellent and can handle almost every required concept. The existence of a MeSH heading, however, is not a reason for including an article out of scope on the basis of its content as delineated below. In 1978 MeSH made available for use with the headings for all organisms, macro- and micro-, a useful subheading, /genetics. The possible combination of an organism with /genetics, however, is not a reason for including an article out of scope on the basis of content by the criteria below. Despite the indexing requirement of indicating by the check tags SUPPORT, U.S. GOV'T, P.H.S. and SUPPORT, U.S. GOV'T, NON-P.H.S., an article so checked is not routinely indexed if it is out of scope by the criteria below. View supported research critically, but if the article is clearly out of scope, it should not be indexed merely because it is supported by NIH, for example. If it is borderline, apply the usual principle regarding selection, "When in doubt, index."

The aim of human genetic research and research with animals is to improve the human and animal condition. The primary interest of INDEX MEDICUS is the improvement of health and the prevention of disease. It is not unreasonable to assume that articles accepted for indexing from selectively indexed journals should center about content directed to human health. So areas of peripheral interest to man are not necessarily in scope; these fall within the range of "applied genetics". That is, it is advantageous to the cheese manufacturer to improve the quality of blue cheese by genetic research on mold, but an article on mold genetics for the improvement of cheese is not in scope. Similarly the brewer benefits from genetic research on Saccharomyces cerevisiae, but an article on Saccharomyces cerevisiae genetics is not necessarily in scope. Any article on the application of genetics to the improvement of agriculture, floriculture, viniculture and commercial produce is not in scope unless it meets the other requirements of scope outlined below.

In general follow the criteria here. Naturally there will be occasional exceptions based on the intelligent application of these general rules. In most cases in the selection of genetic articles, as in the selection of articles in chemistry, psychology, air pollution, water pollution, and other selectively indexed areas, the aforementioned rule obtains: if in doubt, include. The suggestions below are meant to dispel most cases of doubt.

INDEX AS IN SCOPE ARTICLES ON

1. all human genetics;
2. all primate genetics;
3. all experimental genetics involving mammals represented by check tags, but note 15 below;
4. genetics of other mammals only if directly applicable to human genetics;
5. genetics of all pathogenic bacteria, viruses, fungi and parasites;
6. genetics of nonpathogenic organisms concerned with genetic mechanisms only if directly applicable to human genetics but not those concerned with the practical application of genetics to industry, agriculture, viniculture, etc.;
7. genetic effects of all drugs and chemicals (i.e., all articles indexed with /drug effects attached to a genetic heading) on any living organism except plants;
8. genetic effects of all radiations (i.e., all articles indexed with /radiation effects attached to a genetic heading) on any living organism except plants;
9. all biochemical genetics except the biochemical genetics of plants and soil or water microbes;
10. genetics of DROSOPHILA (melanogaster), NEUROSPORA (crassa), SACCHAROMYCES (cerevisiae) and other commonly used organisms in genetic research ONLY if they meet the requirements of 6-9 above or are models of human genetics in the specific article being indexed (i.e., not by implication).

NOTE: This means that although these organisms are convenient and useful tools in research on genetic principles, they are not automatically in scope. Articles involving them must have application to human genetics or illustrate genetic principles with direct application to human genetics. "Eye color in Drosophila and controlling genes" is not in scope; "Sex selection among wild-type strains of Drosophila" is not in scope.

The above restrictions can be re-stated negatively:

DO NOT INDEX AS OUT OF SCOPE ARTICLES ON

11. plant genetics or plant-disease even under the conditions of 6-9 above;
12. genetics of soil or water bacteria or other soil or water microbes even under the conditions of 6-9 above;
13. genetics of yeasts and molds used in breweries, wineries or cheeseries for the improvement of the products;
14. genetics of insects or other invertebrates unless under the conditions of 6-9 above;
15. genetics of the anatomy, morphology or physiology of any organism or animal - even veterinary animals - if restricted to that species and without application to human genetics;
16. population genetics unless models for man or veterinary animals.

Selection of articles in selectively indexed chemical journals

Many of the journals indexed in INDEX MEDICUS in the field of chemistry are selectively indexed. Below are guidelines for the selection or rejection of articles concerning chemicals from journals indicated SELECTIVE in the LIST OF JOURNALS INDEXED IN INDEX MEDICUS under the rubric "Chemistry." Although such articles will be found predominantly in chemical journals, the principles of selectivity of chemical articles will apply also to selectively indexed journals in other fields.

The specified criteria should be followed in most cases, although there will be an occasional exception to these general rules based on intelligent application. The suggestions below, however, should dispel most cases of doubt and should make the citations in INDEX MEDICUS more relevant.

INDEX AS IN SCOPE ARTICLES ON

1. all chemical substances discussed from the viewpoint of their biological activity except under the conditions of 18-20 and 26 below;
2. all chemical substances discussed from the viewpoint of their pharmacological activity and pharmaceutical properties;
3. all chemical substances discussed from the viewpoint of their toxicological effect in man and animal;
4. all chemical substances discussed from the viewpoint of any other medical aspect;
5. all chemical substances in food, food plants (except forage) and medicated feeds except as they relate to food technology and under the conditions of 28 below;
6. all environmental pollutants (Category D5) in foods, food plants (except forage) and medicated feeds;
7. all environmental pollutants (Category D5) in air and water with discussion of direct relation to health hazards;
8. all radioactive pollutants (Category D5) in air and water with discussion of direct relation to health hazards;
9. tobacco smoke except under the conditions of 23 (see also MeSH Annotation under SMOKE);
10. all enzymes except those from plants and invertebrates or when used as reagents in assays not in scope (enzymes from pathogenic microbes and microbes used in standard research are in scope);

11. all natural hormones except plant and invertebrate hormones (unless the article deals with their direct application to the biology of human beings and higher animals);
12. all DNA and RNA except in plants;
13. data bases generated by or related to NLM data bases, including MEDLINE and CATLINE, CANCEREXPRESS, CANCERLIT, CANCERPROJ, CHEMLINE, CLINPROT, TDB, TOXLINE, RTECS;
14. data bases directly relevant to the bio-medical sciences (e.g., BIOSIS).

DO NOT INDEX AS OUT OF SCOPE ARTICLES ON

15. analytic, isolation or determinative technics discussing only the technic or instrumentation irrespective of the substance analyzed;
16. analytic, isolation or determinative technics for in vitro chemicals, with special reference to the following:
17. the isolation, synthesis, structure, analysis or physical properties of a chemical in non-biological matter;
18. the isolation, synthesis, structure, analysis or physical properties of a chemical in plants;
19. the isolation, synthesis, structure, analysis or physical properties of a chemical in non-pathogenic bacteria, viruses, fungi or other lower organisms unless these species are discussed as models for processes taking place in higher animals;
20. photosynthesis in plants and lower organisms;
21. environmental pollutants in soil;
22. analytic technics for environmental pollutants (Category D5) in air and water with no discussion of direct relation to health hazards;
23. analytic technics for tobacco smoke with no discussion of direct relation to health hazards;
24. the isolation, synthesis, structure, analysis or physical properties of nucleosides, nucleotides, proteins, peptides, amino acids, carbohydrates, glycosides, lipids, steroids, synthetic hormones and toxins except when they relate to biochemical genetics;
25. the isolation, synthesis, structure, analysis or physical properties of alkaloids;

26. chemical substances (including hormones and enzymes) from invertebrates unless the article deals with their direct application to the biology of human beings and higher animals;
27. the chemical synthesis, structure, analysis or physical properties of antibiotics or the biosynthesis of antibiotics by organisms unless the article deals with their pharmacological significance;
28. the isolation, synthesis, analysis or preparation of chemicals in food and medicated feeds and as related to food technology (flavor, aroma, color, texture, cookability, etc.).

In the selection of chemical articles in selectively indexed journals, as with articles in other selected areas, e.g., genetics (TECHNICAL NOTE D) and psychology (TECHNICAL NOTE F), apply this rule: when in doubt, include. Most articles, however, can be decisively chosen for indexing or rejected on the basis of the above criteria. In the few doubtful cases this rule of thumb can be applied: If the questionable article is meant for the physician or biochemist, accept it; if the questionable article is meant for the theoretical or analytical chemist or - in the case of environmental pollutants - for the sanitary or industrial engineer, reject it. While the affiliation of the author with a medical school can sway your choice for selection in doubtful cases, the support of the research by the National Institutes of Health or other government agency is not necessarily a potent argument in favor of indexing an otherwise questionable article.

Selection of articles in selectively indexed psychology journals

Almost 100 psychology journals are indexed in INDEX MEDICUS. Of these over 50 are selectively indexed. Although the MeSH coverage of terms in the field of psychology is excellent and can handle every required concept, most articles in selectively indexed psychology journals are out of scope.

While the criteria and guidelines below are to be followed in choosing articles for indexing from selectively indexed psychology journals, the principles should be applied to the selection or rejection of psychology articles from other selectively indexed journals.

INDEX AS IN SCOPE ARTICLES ON

1. any Category F3 term;
2. any psychological concept in a somatic or mental disease;
3. the effect of a drug or chemical on any psychological concept in Categories F1 and F2;
4. the effect of radiations on any psychological concept in Categories F1 and F2;
5. a Category F1 and F2 concept only from an organic or physiological viewpoint or in a somatic or psychiatric disease or under the conditions of 3 and 4 above; see also exceptions for inclusion at 6-9 below;
6. any psychological concept involving a newborn infant and probably early infancy;
7. PSYCHOPHYSIOLOGY and all indentions in Category F2;
8. PERCEPTION and all indentions in Category F2 except SOCIAL PERCEPTION;
9. SMOKING;
10. psychological tests and projective technics only if discussed with regard to diagnosis, prognosis or treatment plan in a disease;
11. conditioning or classical conditioned reflex only if the process involves an organ, physiology, disease or therapy;
12. PSYCHOANALYSIS as a specialty and PSYCHOANALYTIC THERAPY, but not psychoanalytic theory nor psychoanalytic interpretation of non-medical concerns;
13. psychoanalytic interpretation of dreams, since DREAMS is in scope as psychophysiology;

14. PSYCHOTHERAPY and all indentions in Category F4;
15. mental health, mental health services and mental health personnel;
16. psychiatric hospitals, psychiatric services and personnel;
17. physicians and other health occupations and medical students and other health occupation students;
18. PSYCHOLOGY, CLINICAL as a field and in diagnosis and therapy.

DO NOT INDEX AS OUT OF SCOPE ARTICLES ON

19. any Category F1 and F2 concept unless from the viewpoint of physiology, in a disease or as affected by drugs and chemicals or radiations;
20. any psychological or projective test discussing its validation, quantification, replication, etc.; see 10 above;
21. psychometrics and psychometric theory;
22. CRIME and CRIMINOLOGY;
23. attitude, public opinion, opinion, prejudice;
24. motivational research and advertising;
25. academic achievement unless of medical students and other health occupations students;
26. educational psychology, the field and subjects in it unless in scope under the conditions of 1-18;
27. military psychology, the field and subjects in it unless in scope under the conditions of 1-18;
28. applied psychology, the field and subjects in it unless in scope under the conditions of 1-18;
29. industrial psychology, the field and subjects in it unless in scope under the conditions of 1-18;
30. social psychology, the field and subjects in it unless in scope under the conditions of 1-18;
31. parapsychology, telepathy, the spirit world and the like;
32. PSYCHOLOGY as a field;
33. schools of thought in psychology;

34. psychological theory;
35. PSYCHOANALYTIC THEORY, PSYCHOANALYTIC INTERPRETATION and SYMBOLISM except in relation to subjects in scope;
36. aptitude and APTITUDE TESTS unless affected by disease, drugs or radiations;
37. INTELLIGENCE and INTELLIGENCE TESTS unless affected by disease, drugs or radiations;
38. MEMORY unless affected by disease, drugs or radiations;
39. CHILD DEVELOPMENT unless the physiology of development or unless affected by disease, drugs or radiations;
40. COMMUNICATION and ANIMAL COMMUNICATION;
41. INFORMATION THEORY;
42. HUMAN ENGINEERING except in relation to disabled persons;
43. INTERPERSONAL RELATIONS unless in relation to subjects in scope;
44. PARENT-CHILD RELATIONS and all indentions unless in relation to subjects in scope;
45. HUMOR and humorous articles unless in relation to subjects in scope.

The repetitive points above may be summarized thus: any psychological concept or MeSH term is in scope if it is in an article discussing an organ, a physiological process, a disease, the effect of drugs and chemicals or radiations on it.

After all of the stated criteria have been applied, if the indexer is still unsure, he will follow the customary practice: when in doubt, include. The criteria should dispel doubts, however, on most questions of inclusion or exclusion. The rule of thumb here is that applied to all questions of inclusion: Will this article be of value in a medical index to a physician or is it of interest only to a psychologist? If it has any interest for a physician, index it. This means that any of the items above if written from a medical or psychiatric viewpoint or in relation to a somatic or physical disorder, is IN SCOPE. If in doubt, index the article.

Selection of articles in selectively indexed microbiology journals

Many of the journals indexed in INDEX MEDICUS in the fields of bacteriology, mycology and virology are selectively indexed. Here are guidelines for the selection or rejection of articles on microbes from journals indicated SELECTIVE in the LIST OF JOURNALS INDEXED IN INDEX MEDICUS under the subject rubrics MICROBIOLOGY and VIROLOGY. Although such articles will be found largely in those listed there, the principles of selectivity of microbe articles will apply also to selectively indexed journals in other fields.

The specified criteria should be followed in most cases, although there will be an occasional exception to these general rules based on intelligent application. The suggestions below, however, should dispel most cases of doubt and should make the citations in INDEX MEDICUS more relevant. "Microbes" below is used for bacteria, fungi and viruses. Microbial genetics is discussed *passim* in TECHNICAL NOTE D and microbial chemistry in TECHNICAL NOTE E.

INDEX AS IN SCOPE ARTICLES ON

1. all microbes pathogenic to man and to animals in Category B2;
2. all microbes, pathogenic or not, associated with MeSH pollution and pollutant terms, biodegradation and sewage;
3. all microbes, pathogenic or not, contaminating food and food plants;
4. all microbes, pathogenic or not, contaminating drugs and chemicals;
5. DNA, BACTERIAL; DNA, FUNGAL; DNA, VIRAL; RNA, BACTERIAL; RNA, FUNGAL and RNA, VIRAL of pathogenic and non-pathogenic microbes (see also TECHNICAL NOTE 234.10);
7. enzyme metabolism of pathogenic microbes and microbes used in standard research, but not the metabolism of industrial enzymes;
8. all microbes synthesizing antibiotics;
9. biological pest control by microbes with regard to the prevention of disease in man and veterinary animals, but not with regard to agricultural improvement;
10. genetics of all pathogenic microbes;
11. genetics of non-pathogenic microbes if directly applicable to human genetics but not if applicable to agriculture, food technology, ~~viro~~ culture and the like;
12. microbes used in biological assays.

DO NOT INDEX AS OUT OF SCOPE ARTICLES ON

13. non-pathogenic microbes except as above or unless the study has direct application to humans or higher animals;
14. microbes in plants and lower animals in Category B1;
15. microbes in air, water and soil except as in 2 above;
16. microbes used in breweries, wineries, cheeseries, bakeries, etc. for manufacture or improvement of quality;
17. industrial applications of microbes;
18. photosynthesis, luminescence and other physiological processes in non-pathogenic microbes.

TN Form of Saint names in Field 15
H

Enter the names of Saints in Field 15 in inverted form, as

Apollonia, Saint
Cosmas and Damian, Saints
Hildegard, Saint
Thomas, Saint

Your data form will look like this for a single saint:

(9) LANGUAGE ENG. _____	(11) ANONYMOUS A <input type="checkbox"/>	(17) REFS	(15) SUBJECT NAME Hildegard, Saint
----------------------------	--	-----------	---------------------------------------

For Saints Cosmas and Damian, usually written about together, Field 15 will follow the typing as above in the second example.

For two or more saints in the same article, discussed separately, use this form (note the spacing to alert the typist to the separate identities):

(9) LANGUAGE ENG. _____	(11) ANONYMOUS A <input type="checkbox"/>	(17) REFS	(15) SUBJECT NAME Anthony, Saint Genevieve, Saint
----------------------------	--	-----------	---

Note that spelling out Saint and using it with a comma as above relate only to historic religious personages. It has nothing to do with the entry for authors' names containing Saint or St. in various forms. There is no change here: P. Saint André is entered in the author section as Saint André P and I. St. Lawrence is entered as St. Lawrence I. Do not attempt to make uniform: author's names show their personal family preferences.

TN ABSORPTION (NIM)

1

Almost half the MeSH terms are chemicals and drugs and with them is used a very high-tally subheading, /metabolism.

In the realm of pharmacology, the fate of drugs relates to their absorption, distribution, metabolism (in the narrow sense), biotransformation and excretion. The extent and rate of absorption are important in pharmacokinetics.

For this reason indexers should index articles on the absorption of chemicals and drugs routinely under the chemical term with the appropriate subheading (IM) and ABSORPTION (NIM).

It is not correct to assume that /metabolism is obviously "absorption" and hence the NIM coordinate is not necessary. When an article or discussion centers about "absorption", ABSORPTION should appear on the data form as NIM.

Two pharmacologically important absorptive processes are reflected in more specific MeSH ABSORPTION headings, INTESTINAL ABSORPTION and SKIN ABSORPTION. These are usually IM.

TN Animals as IM

2

In recent years MeSH has amplified the subcategories of Category B by the addition of many specific animal and species headings. In 1968 a great many animals of both veterinary and research import were added to B2: RACCOONS, OPOSSUMS, DEER, REINDEER and many many others. In 1975 even more were added to MeSH as see under references.

The subject of animals as IM is discussed in the MEDLARS INDEXING MANUAL 18.6.4, 18.6.5, 18.6.6, 18.6.8, 18.6.15 and 22.33.

Indexers do not index as many of these animals as IM as they should. Too many are going in NIM as if experimental animals though admittedly many are not the run-of-the-mill experimental animal: BUFFALOES (NIM)? LIONS (NIM)? CANARIES (NIM)?

Use this as rule of thumb: usually the NON-run-of-the-mill animal, i.e., the NON-check tag animal, is IM.

You should ask yourself, Why is the animal being used? If it is in a journal of anatomy or comparative physiology, the animal should be IM, not NIM. If an animal is being used as a good research animal and the author makes a point of this, the animal should also be IM.

Check tags have been provided for those animals which repeatedly figure in ordinary experimental medicine and both our users and experimental scientists are aware of either our stated policy on experimental

animal tags or the rationale of this facet of MEDLARS. They neither expect nor want the conventional experimental animal in an experimental study as an IM animal. We question, however, the wisdom of hiding a study on foxes - experimental or not - in the computer as a mere Check Tag concept.

Remember also that when you make the animal IM, it should be paired with a subheading. /anatomy & histology and /physiology will be your most frequently used subheadings. Avoid /cytology in accordance with the Indexing Manual instructions. NEVER say /drug effects with an animal term, whether IM or NIM, if the animal is from B2. Likewise, /radiation effects with B2 terms is incorrect.

TN Animals: miscellaneous data
3

1. Read the rules covering the indexing of veterinary articles in the MEDLARS INDEXING MANUAL 18.6.9-18.6.16; 18.7 - all sections; the veterinary disease section 23.47-23.52; veterinary neoplasms 24.33-24.36.

Indexing policy can be briefly summarized with this standard example showing the absolute minimum demanded by the rules:

"Gastrointestinal disease of sheep & dogs"

GASTROINTESTINAL DISEASES / * vet
ANIMAL - check tag
DOGS - check tag
* DOG DISEASES
SHEEP
* SHEEP DISEASES

2. Do not capitalize the names of breeds of animals (especially common are dog names) unless the name contains a proper noun or adjective, and then capitalize only that:

Doberman pinscher - not Pinscher
German shepherd - not Shepherd
Bedlington terrier - not Terrier
Chesapeake Bay retriever - not Retriever
cocker spaniel - not Cocker Spaniel
basset hound - not Basset Hound
but
Great Dane

If in doubt, read Webster's 2d edition (not the 3d since this edition uses no capitals at the entry word).

3. Indicate the sex accurately for the animal: mare is tagged FEMALE; ewe, FEMALE; sow, FEMALE; bull, MALE; ram, MALE; cockerel, MALE. If not clear from the article, refer to any English dictionary.
4. An article on MASTITIS, BOVINE is tagged ANIMAL + CATTLE + FEMALE.
5. ENTEROTOXEMIA and PLEUROPNEUMONIA, CONTAGIOUS are exclusively animal diseases and indexing these diseases with HUMAN for "toxic enteritis" and "infectious pneumonia" is WRONG. SWAYBACK, a disease of sheep, is wrong for a person with this peculiar spinal posture.

All animal diseases in C22 were annotated originally with the note "do not use /vet". It was thought that this was enough as a warning, together with the category number directly under the heading in MeSH. In 1982 all animal diseases, like ENTEROTOXEMIA, that could conceivably be missed by a careless indexer, were annotated in addition to say "animal only" or "usually animal". The indexer should always check the text and the MeSH category assignment.

6. PIGEONS is indented under BIRDS, not POULTRY, so diseases of pigeons is indexed under PIGEONS + ANIMAL + BIRD DISEASES, not POULTRY DISEASES.
7. Japanese quail is in MeSH as JAPANESE QUAIL see COTURNIX.
8. MeSH advises that the panda is indexed under CARNIVORA.
9. Elands are indexed under ANTELOPES, not ARTIODACTYLA, as are wildebeests.
10. Several years ago annotations were created to list specific animals under the large animal-group terms. Long lists of animals are given under these headings from B2 in MeSH annotations:

ANTELOPES	DEER
ARTIODACTYLA	INSECTIVORA
CARNIVORA	PERISSODACTYLA
CATTLE	RODENTS

Familiarize yourself with the animals in B2 and the aforementioned annotations.

11. Indexers are expected to know that a pack rat isn't a rat pack, a house mouse isn't a mouse house and a rat kangaroo isn't a kangaroo rat. MeSH has called to our attention a single genus of rat kangaroos called Potorous. Indexers should be particularly careful in translating foreign titles, differentiating "kangaroo rat" from "rat kangaroo". The former is in MeSH as KANGAROO RATS see DIPODOMYS; the latter is indexed as KANGAROOS.

12. MeSH has specified six common names of HAMSTERS as see references and two scientific genus names to cover these six:

HAMSTERS

B2.649.865.360.458+

check tag: no qualif, but when IM, only /anat /blood-csf-urine /class /embryol /genet /growth /immunol /metab /microbiol /parasitol /physiol /surg

CRICETUS was see under HAMSTERS 1963-81

X CRICETINI

X CRICETUS

X DJUNGARIAN

X DJUNGARIAN HAMSTER

X PHODOPUS

XU CRICETULUS

XU MESOCRICETUS

HAMSTERS, ARMENIAN see CRICETULUS

B2.649.865.360.458.340

HAMSTERS, CHINESE see CRICETULUS

B2.649.865.360.458.340

HAMSTERS, GOLDEN see MESOCRICETUS

B2.649.865.360.458.500

HAMSTERS, GOLDEN SYRIAN see MESOCRICETUS

B2.649.865.360.458.500

HAMSTERS, GREY see CRICETULUS

B2.649.865.360.458.340

HAMSTERS, SYRIAN see MESOCRICETUS

B2.649.865.360.458.500

ANTINEOPLASTIC AGENTS

ANTINEOPLASTIC AGENTS is a heavily used heading. Like most action-group terms, this heading includes anticancer drugs in general or unspecified; several anticancer drugs grouped here for IM, with the specific anticancer agents NIM; specific anticancer drugs for which there are no MeSH headings.

In addition to ANTINEOPLASTIC AGENTS, the most general term, these specific anticancer headings are in MeSH;

ANTIBIOTICS, ANTINEOPLASTIC
ANTINEOPLASTIC AGENTS, PHYTOGENIC
ANTIMETABOLITES, ANTINEOPLASTIC

1. ANTIBIOTICS, ANTINEOPLASTIC

Defined by MeSH in 1967: "antibiotics which suppress or destroy tumor growth"

When an anticancer agent is synthesized by a bacterium or fungus, use ANTIBIOTICS, ANTINEOPLASTIC. The article will usually speak of the "antibiotic" nature and the action-group or specific antineoplastic antibiotics will be shown to be of (generally) bacterial origin.

2. ANTINEOPLASTIC AGENTS, PHYTOGENIC

Defined by MeSH in 1976: "agents, obtained from higher plants, that have demonstrable cytostatic or antineoplastic activity"

As above with the antineoplastic antibiotics, the plant source will generally be ascertainable from the text.

3. ANTIMETABOLITES, ANTINEOPLASTIC

Defined by MeSH in 1976: "substances that, due to their close structural resemblance to normal physiological substances, combine with and thereby inhibit the enzyme required for normal functioning; a number of these substances have been found to be effective antineoplastic agents"

These are usually based on purines or pyrimidines or amino acids or folate. Again, the antimetabolite slant will be apparent from the text.

To make ANTINEOPLASTIC AGENTS clean and reliable for our users and to fulfill our promise to them of indexing as specifically as possible - whether under a specific drug or an action-group more specific than the very general ANTINEOPLASTIC AGENTS - give some thought to the clues above. If none of the concepts fits from the antibiotic, botanical or metabolic activity discernible and applicable, go ahead and use just ANTINEOPLASTIC AGENTS. This memorandum is to lead you, however, to more thoughtful indexing.

TN Anticancer polychemotherapy
5

Tend to follow these paradigms in indexing multiple anticancer agents. Since the point of polychemotherapy in cancer is the use of combinations of agents, the heading ANTINEOPLASTIC AGENTS, COMBINED will be favored as IM and the specific drugs as NIM.

The MeSH definition reads,

"Drug therapy of neoplasms with two or more chemicals simultaneously or sequentially . . ."

disease / * drug ther
ANTINEOPLASTIC AGENTS, COMBINED / * ther use

disease / * drug ther
ANTINEOPLASTIC AGENTS, COMBINED / * ther use
specific drug A / admin
specific drug B / admin

disease / * drug ther
ANTINEOPLASTIC AGENTS, COMBINED / * ther use
specific drug A / admin
specific drug B / admin
specific drug C / admin

etc. for four, five and more drugs.

Many articles are written on combinations of anticancer agents named by initials. These figure in titles, text and searches and are so recognized by the auxiliary chemical tool available to indexers, MEDICAL SUBJECT HEADINGS - SUPPLEMENTARY CHEMICAL RECORDS 1984.

The chart to follow shows the indexer how to present these polychemotherapy initialisms on the data form. The combinations are not in MeSH but are in the supplemental MeSH record for indexing and retrieving. The chart shows you what to type on the data form when the combination appears in the chemical tool and when it does not.

Two popularly used combinations of three and four drugs are used in the illustration below as examples of multiple drugs.

Drug	Tool	Data Form	Chemical Flag
CAV	if in tool	CAV / admin ANTINEOPLASTIC AGENTS, COMBINED / * ther use	none needed
CAV	if not in tool	ANTINEOPLASTIC AGENTS, COMBINED / * ther use	CAV / admin
MOPP	if in tool	MOPP / admin ANTINEOPLASTIC AGENTS COMBINED / * ther use	none needed
MOPP	if not in tool	ANTINEOPLASTIC AGENTS COMBINED / * ther use	MOPP / admin

In none of these cases is it necessary to put on the data form the specific chemicals for which the letters stand. That is, CAV stands for Cyclophosphamide, Doxorubicin (= Adriamycin) and Vincristine. Only CAV is needed on the data form or the chemical flag: it is not necessary to type out CYCLOPHOSPHAMIDE, DOXORUBICIN and VINCRISTINE.

COMBINED MODALITY THERAPY (E2)

This has been defined by MeSH as

"The treatment of a disease or condition by several different means simultaneously or sequentially; chemoimmunotherapy, radioimmunotherapy, chemoradiotherapy and cryochemotherapy are seen most frequently, but their combination with each other and surgery are also used."

Past practice has had the indexer making IM the primary therapy with the adjuvant therapy NIM. Often the time element helped the indexer judge the IM when the sequence was not expressed: the therapy performed first on the patient was IM, the adjunct was NIM. If the timing was irrelevant to the therapeutic regimen, the article was put under the disease with the subheading /*therapy and - depending on the amount of text and the priority of the journal - the disease was indexed with the other therapeutic subheadings as NIM.

With the introduction in 1984 of the term COMBINED MODALITY THERAPY, the indexer will help the user by adding it as another search parameter as NIM. While indexing with this term adds another heading in the field where multimodal therapy is most popular, in cancer, in addition to the usual doubling of headings anyway (i.e., indexing under the site and the histological type for all coordinations), the pinpointing of a combined anticancer method will help the user.

Continue to make the primary therapy or the purpose of the therapy IM and the other forms of therapy NIM. If multiple therapy is used but the sequence is not discussed or is irrelevant, index under the disease with the subheading /therapy as IM and NIM the specific therapy subheadings. Always add COMBINED MODALITY THERAPY (NIM).

Regardless of the decision to IM one modality against another, tend to make IM specific therapeutic technics. Note them particularly in the example below, as CRYOSURGERY and COBALT RADIOISOTOPES. There is no change in policy in indexing technics IM or NIM.

Study the following examples in which, however, only /surgery, /drug therapy and /radiotherapy are used as types of therapy FOR PURPOSES OF SIMPLE ILLUSTRATION. They will help you get a feeling for the use of COMBINED MODALITY THERAPY.

"Concurrent radiochemotherapy in breast cancer"

BREAST NEOPLASMS / * therapy
BREAST NEOPLASMS / drug therapy
BREAST NEOPLASMS / radiotherapy
COMBINED MODALITY THERAPY

"Combined modality therapy for esophageal squamous cell carcinoma"

ESOPHAGEAL NEOPLASMS / * therapy
ESOPHAGEAL NEOPLASMS / surgery
ESOPHAGEAL NEOPLASMS / radiotherapy
ESOPHAGEAL NEOPLASMS / drug therapy
CARCINOMA, SQUAMOUS CELL / * therapy
CARCINOMA, SQUAMOUS CELL / radiotherapy
CARCINOMA, SQUAMOUS CELL / drug therapy
COMBINED MODALITY THERAPY

Note: If this had been a priority 3 journal this would have been indexed thus:

ESOPHAGEAL NEOPLASMS / * therapy
CARCINOMA, SQUAMOUS CELL / * therapy
COMBINED MODALITY THERAPY

"Cryosurgery and adjuvant radiotherapy of melanoma"

MELANOMA / * surgery
MELANOMA / radiotherapy
* CRYOSURGERY
COMBINED MODALITY THERAPY

"The role of consolidation irradiation in combined multimodal therapy of small cell carcinoma of the lung"

LUNG NEOPLASMS / * radiotherapy
CARCINOMA, OAT CELL / * radiotherapy
LUNG NEOPLASMS / drug therapy
COMBINED MODALITY THERAPY

"Evaluating preoperative radiation therapy in cancer"

NEOPLASMS / * radiotherapy
NEOPLASMS / surgery
COMBINED MODALITY THERAPY

"Adjuvant chemotherapy and immunotherapy in cutaneous melanoma"

SKIN NEOPLASMS / * therapy
SKIN NEOPLASMS / drug therapy
MELANOMA / * therapy
MELANOMA / drug therapy
BCG VACCINE / * therapeutic use
DACARBAZINE / * therapeutic use
COMBINED MODALITY THERAPY

TN Obliterative arterial disease and ARTERIOSCLEROSIS
11

"Obliterative arterial disease" is an expression met frequently in indexing. It should be indexed as ARTERIAL OCCLUSIVE DISEASES, a term in the system since 1973. There is a 1984 see reference reading, "ARTERIAL OBSTRUCTIVE DISEASES see ARTERIAL OCCLUSIVE DISEASES."

Check the article for which you are attempting to index "obliterative arterial disease". It often turns out to be ARTERIOSCLEROSIS or ARTERIOSCLEROSIS OBLITERANS.

Do not equate "obliterative arterial disease" with ARTERIOSCLEROSIS OBLITERANS or with THROMBOANGIITIS OBLITERANS. These are distinct clinical entities and should be indexed only when discussed in these terms by the author. Both of these are indented under ARTERIAL OCCLUSIVE DISEASES.

TN Avicenna
12

Avicenna, also called Abu Ali Ibn Sina, was a famous philosopher-physician whose thousandth birthday was celebrated in 1980. He was active at the court of various caliphs in old Baghdad.

Using the rule of the time+place+subject triad, indexers have tried to locate him geographically to fulfill the place requirement as flourishing in the modern sites of IRAN, UZBEKISTAN or TADZHIKISTAN. This geography gives a peculiar flavor to the citations.

The entire matter has been cleared through the History of Medicine Division. Follow this policy in indexing articles on Avicenna:

- supply his name in Field 15 as Avicenna, not Ibn Sina
- check the tag HISTORICAL BIOGRAPHY
- check the tag HISTORY OF MEDICINE, MEDIEVAL
- do not locate by a modern geographical heading
- index under MEDICINE, ARABIC
- check the tag HISTORICAL ARTICLE

TN BLOOD (A12, A15)
24

As an IM term, this is little used but when used, pair it with only the subheadings permitted by the annotation in MeSH: /drug effects, /metabolism, /microbiology, /parasitology, /physiology and /radiation effects. The annotation also states that BLOOD /analysis = BLOOD CHEMICAL ANALYSIS, BLOOD /cytology = BLOOD CELLS and that while BLOOD /enzymology is not incorrect, ENZYMES / blood or, better still, the specific enzyme or enzyme class with the subheading /blood, is used instead.

You will use the subheading /blood very frequently. What remains under BLOOD should be cleanly what is left only after an indexer has said everything that could be said or what is left when the blood is considered as if it were an organ itself, acting as an organ.

For example, "Uses for cadaveric blood" is a BLOOD article. "Nose blood as a paint binder among Eskimos" is a BLOOD article. "Insecticidal activity of the blood" is a BLOOD article. But articles of this type are in the minority.

Note that OCCULT BLOOD (E1) exists as a heading.

TN BLOOD CHEMICAL ANALYSIS (E1)
25

BLOOD CHEMICAL ANALYSIS is almost never IM. In fact, with the subheading /blood available to Category D, it should seldom be used at all. BLOOD CHEMICAL ANALYSIS is for general articles only. Review the use of BLOOD CHEMICAL ANALYSIS in the Manual at 25.44.

The subheading /blood was given to us to cover most articles on the presence of a chemical or drug in the blood. An article on penicillin levels of the blood is indexed under PENICILLINS /blood. The heading BLOOD CHEMICAL ANALYSIS, even NIM, should not be used unless the author specifically discusses something unusual or new in determining these blood levels. It should never be IM unless the point of the article is the technic of analyzing blood chemistry, equipment used for it, its value, its costs, etc. - apart from a specific chemical in the blood. An article on Medicare coverage of blood chemical analyses is properly indexed as BLOOD CHEMICAL ANALYSIS as IM. An article covering the blood levels of various electrolytes or other substances in the blood is probably indexed as ELECTROLYTES /blood or SODIUM /blood or other specific electrolytes or other substances with the subheading /blood but not BLOOD CHEMICAL ANALYSIS.

TN Blood picture
27

We often see this term in the literature. Inspection of the article almost always discloses data leading to the main heading BLOOD CELL COUNT or the cell count of a specific blood cell. If the author specifies any other aspect of the "blood picture", this should be indexed instead of BLOOD CELL COUNT or in addition to it. Usually "blood picture" refers to the cellular component rather than to blood chemistry.

TN BRAIN CHEMISTRY (G6)
29

BRAIN/metabolism and BRAIN CHEMISTRY are closely related and yet should be indexed distinctively.

In differentiating between the two headings, the criterion is simple: the presence or determination of a substance in the brain without a discussion of the breakdown or conversion of the substance is BRAIN CHEMISTRY (i.e., the proper heading for BRAIN/analysis which is outlawed).

If the brain tissue is metabolizing the substance or the substance is being metabolized in the brain tissue, BRAIN /metabolism is the correct term.

TN CELLS, CULTURED (A11)
35

MeSH has a complete array of tissue culture terms: ORGAN CULTURE, TISSUE CULTURE and CELLS, CULTURED. Unfortunately, the assignment of the first two to Category E and the last to Category A misleads indexers into thinking they should be used and indexed differently. Alas, this is not so.

Do not feel that CELLS, CULTURED is to be considered exclusively an anatomical term. Think of this heading regularly as merely the cytological member of this anatomy (ORGAN CULTURE)--histology (TISSUE CULTURE)--cytology (CELLS, CULTURED) culture triad.

Do not feel also that you must convert every organ culture, tissue culture or cell culture to CELLS, CULTURED merely to take advantage of available subheadings. When you are picking up cell cultures for pertinent, depth indexing, index CELLS, CULTURED without a subheading, as if the term were instead "CELL CULTURE", used exactly as you use ORGAN CULTURE or TISSUE CULTURE. Do not be led astray merely because CELLS, CULTURED is in Category A.

When CELLS, CULTURED is IM, pertinent subheadings are permitted. More often, however, it will be an NIM parameter as is customary for the routine indexing of technics. Still more often, though, it

will figure in third-tier indexing and may not be picked up at all. The principle of third-tier indexing is discussed in the MEDLARS INDEXING MANUAL 20.11. CELLS, CULTURED is discussed in 22.26.1 and 26.33. When NIM, it will probably NOT have a subheading. Treat it just as you would ORGAN CULTURE or TISSUE CULTURE in relation to its IMhood or NIMhood.

Do not spend time trying to manipulate this heading to coincide with your own ideas. It is possible to culture the whole spleen, for example, spleen tissue or spleen cells. Likewise, liver, muscle, etc. There should be no doubt but if there is, follow the terminology or intent of the author.

See TISSUE CULTURE below (TN 183).

TN CHEMISTRY (H)
37

This term is used as a specialty and as a search parameter meaning "chemistry or chemical structure".

Index CHEMISTRY when a specialty as IM. These articles appear rightly under CHEMISTRY in the printed INDEX MEDICUS: "The relation of biology to physics and chemistry", "Computer analysis of chemical reactions for storage and retrieval", "Training of chemical pathologists", "Beginnings of greatness in Swedish chemistry."

The following examples illustrate the indexing of CHEMISTRY as an NLM search parameter and the indexing of chemicals from the standpoint of correct coordination.

"The chemistry of indoles"

INDOLES (IM)

"The chemical structure of indoles"

CHEMISTRY (NIM)

"The chemical analysis of indoles"

if on the structure of indoles

INDOLES (IM)
CHEMISTRY (NIM)

if on the determination of
indoles in a tissue, body
fluid, etc.

INDOLES /analysis (IM)

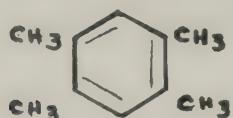
"The chemical determination of
indole in indoleacetic acid"

INDOLES /analysis (IM)
INDOLEACETIC ACID (IM)
CHEMISTRY (NIM)

Indexers should also carefully distinguish among the other chemical headings to follow:

MODELS, CHEMICAL: This is a theoretical discussion of the known or theorized chemical nature of a substance (its structure, physical properties, position, configuration, etc.). It is merely a useful pre-coordination of CHEMISTRY + MODELS, THEORETICAL.

MODELS, STRUCTURAL: This should NEVER be indexed for chemical models. The likely heading is MOLECULAR MODELS and the article will probably show a drawing or photograph of a 2- or 3-dimensional representation. The DNA pendant in Library Hall is the heading MOLECULAR MODELS: it is not MODELS, THEORETICAL nor MODELS, CHEMICAL nor MODELS, STRUCTURAL.



This is the NIM coordinate CHEMISTRY.
It is NOT MODELS, CHEMICAL and NOT
MOLECULAR MODELS.

CHEMISTRY, ANALYTICAL: This is a specialty heading and should be used for such articles as "Calibration of high-volume samplers", "Cleaning of mercury-contaminated glassware", "Expected sources of error". All are indexed correctly under CHEMISTRY, ANALYTICAL.

Since this heading was never meant to be a substitute for /analysis with names of specific drugs and chemicals, "Mass spectrometry of isoquinoline alkaloids" is wrong under CHEMISTRY, ANALYTICAL.

CHEMISTRY, ORGANIC; CHEMISTRY, CLINICAL; BIOCHEMISTRY:

Like CHEMISTRY, ANALYTICAL above, these terms were meant as specialty headings and were not designed as search parameters for specific drugs and chemicals. The great specificity of MeSH in this area of chemicals is far better served by subheadings coordinated with specific technics than by these very general specialty terms.

TN COLD and "cryo-"

44

Indexers should carefully differentiate between COLD and CRYOTHERAPY see CRYOSURGERY. While it is true that "cryo-" comes from the Greek meaning "cold", when used in technical terminology "cryo-" refers rather to freezing or to very low temperatures approaching freezing. Not only is CRYOSURGERY discussed in terms of freezing in the MeSH definition, but the MeSH cross-references tie it as see related with FREEZING as well as COLD.

Do not assume that "cold" and "cryo-" are used interchangeably. Always check the article for the degree of cold and index accordingly.

COLD / therapeutic use is permitted when the cold is above freezing. In other words, cold compresses in treating a sprain is COLD / therapeutic use and not CRYOTHERAPY.

When the temperature is freezing or near freezing, however, the indexer should consider and probably switch to CRYOSURGERY. It should give no problem since the text always says "cryotherapy" or "cryosurgery". If you have no evidence of the degree of temperature, tend to follow the terminology of the author.

Russian literature often uses the words "cryopreserved" and "cryopreservation". Such articles will probably be indexed under FREEZING, particularly since these are often experimental articles with the emphasis on the physical degree of cold rather than on the use of cold in food preservation.

CRYOPROTECTIVE AGENTS is often used wrongly by indexers who interpret this to mean agents protecting man or animal against cold. This is not true in MeSH: it is defined in MeSH with emphasis on its use in laboratories where "the substances are used primarily in the preservation by rapid freezing of cellular elements such as erythrocytes, bone marrow cells, tissue cultures and semen." The MeSH cross-references tie up FREEZING and PRESERVATION, BIOLOGICAL with CRYOPROTECTIVE AGENTS, so the restricted use is implied here too.

TN COMPUTERS (L)

46

The "use" of computers in medicine in general or in specific fields is not to be indexed as COMPUTERS /utilization. By intent and logic, computers were invented and developed to be "used" for some purpose. Hence /utilization for "use of" is wasted as a synonym for "use" and in fact goes against the MeSH definition of /utilization.

Preserve the meaning and intent of the MeSH definition for /utilization. The use of computers in cardiology is indexed as CARDIOLOGY /*instrumentation (IM) + COMPUTERS (IM), not COMPUTERS /*utilization. This is the same principle that prohibits indexing the use of ECG in diagnosing heart defects as ECG /*utilization. The MeSH emphasis on /utilization is on "equipment, facilities, services and health personnel for discussion, usually with data, of how much they are used."

TN DEPRESSION, CHEMICAL; STIMULATION, CHEMICAL (G12)
49

MeSH defines DEPRESSION, CHEMICAL as a "state of decrease in measured activity of a biologic system or function induced by a chemical introduced into the system". STIMULATION, CHEMICAL is defined as a "state of increase in measured activity . . ." The headings may be used for the stimulation or depression of physiologic or metabolic activities of man, animals or microorganisms.

As coordinates STIMULATION, CHEMICAL and DEPRESSION, CHEMICAL will almost never be IM. Although they are pharmacologically significant and equally important as search parameters, still it serves no purpose to make either of these terms IM. An article entitled "The depressant effect of reserpine on hematopoiesis" is indexed under RESERPINE /pharmacodynamics (IM) + HEMATOPOIESIS /drug effects (IM) + DEPRESSION, CHEMICAL (NIM). An article entitled "Increased muscle contraction after administration of caffeine" is indexed under MUSCLE CONTRACTION /drug effects (IM) + CAFFEINE /pharmacodynamics (IM) + STIMULATION, CHEMICAL (NIM).

In the two titles illustrated in the above paragraph, the depression and stimulation were, respectively, the point of the articles. Note that you do not, however, index these concepts routinely in every article on the effect of every drug or chemical. Almost every pharmacology article at some point discusses one or the other or both effects; the terms lose their usefulness if indexed every time depression or stimulation is mentioned as a secondary point.

Do not index with STIMULATION, CHEMICAL and DEPRESSION, CHEMICAL for the same article. That is, when one function is stimulated by one chemical and the same or another function is depressed by another chemical, omit both. Omit the headings also when a chemical stimulates one organ or process but depresses another organ or process in the same organism.

TN DIET (E5) and animals
50

For articles on the diet of animals, such as those wherein this type of information is given by the author, ". . . in the rat on various diets. . .", it is all right to index under the term DIET. Here, the emphasis in the research will doubtless be on the general concept of what or when or how the animal eats and how this affects the experimental condition.

ANIMAL NUTRITION will be used with animals the way NUTRITION is used for human beings. The MEDLARS INDEXING MANUAL 31.5 defines FOOD (and the animal counterpart ANIMAL FEED) and NUTRITION. The animal counterpart, though not shown there, ANIMAL NUTRITION, will be interpreted the same way as human NUTRITION.

ANIMAL FEED will be used, generally, with reference to the veterinary or agricultural aspects of the feeding of animals. The emphasis is usually on the composition of the feed. Don't forget that SILAGE is also a MeSH heading.

TN DIAGNOSTIC ERRORS

51

This should be NIM when a specific misdiagnosed disease is IM. It will be IM when general only, as for an article entitled "Diagnostic errors in emergency surgery complicated by concomitant disease." This IM instance is not as common as those like "Diagnostic errors in acute pancreatitis" where DIAGNOSTIC ERRORS is NIM.

TN DRINKING (G10) and DRINKING BEHAVIOR (F1)

55

The MeSH definition of DRINKING BEHAVIOR is "Behaviors associated with the ingesting of water and other liquids; includes rhythmic patterns of drinking (time intervals - onset and duration), frequency and satiety."

Articles on "drinking" should be evaluated as to whether the emphasis is on the behavior associated with fluid intake or whether the emphasis is on the mere act of ingesting the fluid.

Often it will be difficult for the indexer to discriminate between the two. While reading the two definitions may clarify the matter, articles themselves seldom draw so fine a distinction. Possibly the behavioral aspect will be dominant in psychology journals and mere intake will emphasize physiology instead. Still this is also an artificial distinction which will not hold up each time. If the indexer can make a clear decision, let him do so. Although specificity is desirable, a searcher will be able to search preferably on both.

Water intake or water consumption goes under DRINKING.

Articles on thirst should be reasonably clear since the author will probably use the term THIRST.

Note that DRINKING is in Category G10 and DRINKING BEHAVIOR is in Category F1.

Drinking as in "he drinks too much" implies colloquially the consumption of alcoholic beverages. This is not the MeSH term DRINKING: it is ALCOHOL DRINKING.

TN Drug names
59

Articles on the various types of names of drugs (trade names, generic names, proprietary names, etc.) are indexed under the name of the drug or action group (IM) and NOMENCLATURE (IM). Use DRUGS if the article discusses the problem of names of drugs in general.

This dictum does not refer to every article in which the author gives you the generic or trade names as synonyms for the drug he is discussing. The policy on nomenclature is only for articles or discussion on the development of the correct or suggested system for drug names, for the proper assignment of proprietary names, the ownership of names, the relative cost of drugs under trade versus generic or chemical names, etc., problems in drug nomenclature, comparisons of national systems, etc.

TN DRUG STABILITY (E5)
60

The above term is representative of others of its type in this connection: the word "drug" does not need to be interpreted strictly as if in reference to antibiotics, analgesics and all other concepts known outside MEDLARS as "drugs". In MeSH and in INDEX MEDICUS "drugs" has always been loosely interpreted to mean also substances commonly called "chemicals", and in this sense, sodium chloride - for indexing and categorization purposes - is a "drug." Loosely we have defined as a "drug", any heading in Category D!

In relation to DRUG STABILITY and terms like it in MeSH, the word "drug" can be extended to enzymes and other biological substances. In other words, the use of DRUG STABILITY and similar headings can mean "drug" to be "anything in a bottle."

TN EATING (G10) and FEEDING BEHAVIOR (F1)
63

FEEDING BEHAVIOR is defined by MeSH as "Behavioral responses or sequences associated with eating; modes of feeding, rhythmic patterns of eating (time intervals - onset and duration). MeSH appears to make the same distinction between EATING and EATING BEHAVIOR see FEEDING BEHAVIOR as it does between DRINKING and DRINKING BEHAVIOR. See Technical Note 55.

Because of the same subtle distinction indexers will have the same problem and will solve it the same way: try to ascertain a "behavioral" note in the article: if "behavioral" then index under FEEDING BEHAVIOR.

The concept of "food consumption" will compound the confusion: is this FOOD or is it EATING? The article will have to show the slant. If the emphasis is on the substance, the correct heading is FOOD, not EATING.

Note the categorization of EATING and FEEDING BEHAVIOR.

TN EMBRYO and /embryology

66

Here are some general reminders about the use of the subheading /embryology in relation to both EMBRYO and FETUS.

1. Do not use /embryology as the primary (i.e., IM) subheading when the embryology is merely an aspect of the experiment. That is, an article on "the activity and isoenzyme pattern of lactate dehydrogenase in neurons and astroblasts cultured from the brains of chick embryos" is incorrectly indexed as BRAIN /embryology (IM). The basic IM is BRAIN /enzymology with the /embryology coordination NIM.

In deciding the IM vs the NIM subheading, a clue is the identity of the journal: one with "embryology", "morphology" or "developmental" in the title will tend to favor /embryology as IM. Physiology and biochemical journals will tend to favor another subheading (/physiology, /metabolism or a related one usually) as IM. The decisive factor will be the introductory words of the author and "the purpose of this study is to . . ."

2. Read the manual on EMBRYO and FETUS in sections 21.53 through 21.56. Basically this is the policy: when the article concerns the embryo or fetus as a whole, something you can hold in your hand as it were, then EMBRYO (IM) or FETUS (IM) with appropriate subheadings is right.

3. When you choose EMBRYO and FETUS correctly for second-tier indexing of test tissues, do not supply /embryology with the test-tissue organ. The manual examples (as in 21.57), although not actually telling you to use no subheadings, appear to imply it since "monkey kidney" as test tissue is shown as MONKEYS (NIM) + KIDNEY (NIM) without subheadings. Hence for "fetal liver" only FETUS (NIM) + LIVER (NIM) are indexed for test-tissue matter, without subheadings: do not say LIVER/embryology.

4. A note of caution should be added about *in vitro* studies on embryonic or fetal tissue. You must see the distinction between the organ with /embryology in paragraph 1 above and the organ without /embryology in paragraph 3.

If the tenor of the *in vitro* study is a specific aspect of an organ in its embryonic stage of development, both the specific aspect and the embryology must be brought out and /embryology should be on the data form for depth indexing. But if the embryonic or fetal tissue is merely a convenient vehicle where the developmental stage is irrelevant, then /embryology does not appear with the organ. Again the introduction to the article will help you decide.

5. It should be noted that from time to time embryonic or fetal tissue will be third tier and as such will not be indexed at all. See the Manual 21.56 and 21.57 for brief reference to third-tier indexing.

6. Do not assume that when a title says "fetal liver" LIVER /embryology is adequate: it is not. Do not assume that because the definition of /embryology says "for embryonic and fetal development," this means fetus is "obviously" implied: it is not.

FETUS on a data form tells much: it marks the difference in elapsed time, especially with reference to articles on human pregnancy. We have many articles in both obstetrical and toxicology journals where "fetal liver" is important both as LIVER and as FETUS, where the fetus is significant as a fetus and should be so indexed. In such articles FETUS with its subheading and LIVER /embryology will probably be IM.

7. Do not assume in turn that the subheading /embryology automatically means "embryonic physiology": it does not. It could mean embryonic morphology, embryonic physiology, embryonic metabolism, the embryonic effect of drugs, etc. /embryology is important in pointing out the developmental stage; if a specific aspect of this developmental stage or activity is studied, this aspect must be brought out in the form of an additional subheading, even /physiology.

TN EXTREMITIES of animals
75

TECHNICAL NOTE 117 on JOINTS OF ANIMALS discusses one phase of this problem of how to index the foot or paw of those animals with reference to which we say "paw" (dog, lion, cat, mouse, etc., rather than horse or cow).

Index the foot of an animal in experimental studies under FOOT (IM) and FORELIMB or HINDLIMB as the NIM coordinate. In most experimental articles, however, the identity of the foot as hind or fore is totally irrelevant and should not be indexed at all. Research on circulation and burns, for example, should not require the specificity of HINDLIMB or FORELIMB.

On the other hand in veterinary medicine, the HINDLIMB is significant and should be picked up, but still probably as NIM. A legitimate article might be "hindlimb injuries in race horses" but one which would not have appeared in INDEX MEDICUS as IM is "the use of the rotarod in determining grip strength in adjuvant-induced arthritis in the rat."

An animal's paw will be indexed the same way as above. Similarly the thigh of an animal will appear as THIGH (IM) and HINDLIMB or FORELIMB as NIM.

Remember that we have the main heading HOOF AND CLAW. Here it is likely that the IM is HOOF AND CLAW and that the fore or hind limb is still NIM.

Note that in this heading "claw" refers to, for example, the nails of a cat or dog. Do not use HOOF AND CLAW for a chicken's claw: use FOOT.

TN Fanconi syndromes
79

MeSH gives FANCONI SYNDROME as a main heading with two cross-references, DE TONI-DEBRE-FANCONI SYNDROME see FANCONI SYNDROME and LIGNAC-FANCONI SYNDROME see FANCONI SYNDROME. Fanconi's name figures in two other eponyms: FANCONI'S ANEMIA and WISSLER-FANCONI SYNDROME see WISSLER'S SYNDROME.

Guido Fanconi's name appears in eight other eponymous syndromes in Jablonski's ILLUSTRATED DICTIONARY OF EPONYMIC SYNDROMES AND DISEASES. One of them is in MeSH and PRADER-WILLI SYNDROME rather than as Prader-Willi-Fanconi syndrome. None of the other eponyms appeared in the current data base.

When an English or foreign title speaks of a Fanconi syndrome, always check the text to satisfy yourself that it is one of the MeSH Fanconi's: FANCONI SYNDROME, basically a disease of the proximal renal tubules manifesting in various clinical conditions, or FANCONI'S ANEMIA, a type of ANEMIA, APLASTIC.

If the Fanconi of your text is neither of the above, index by the text as you do all syndromes: the policy is in the MEDLARS INDEXING MANUAL 23.37 through 23.37.8.

TN FASTING, STARVATION
80

Both terms may relate to both people and animals and to both clinical and experimental studies. Although the distinction between the two concepts lies in the degree to which food is absent, for indexing purposes no time limit nor limit on food quantity can be set to determine the point at which fasting becomes starvation. The matter of volition - i.e., volunteering to fast or starve or involuntary fasting or starving - is also irrelevant. Do not attempt to evaluate or analyze degrees or volition: avoid the entire matter by using the term the author uses.

TN FOLLOW-UP STUDIES
86

This heading as defined by MeSH emphasizes the epidemiological intent of follow-ups, but it can also be used for a follow-up study of an individual case where the patient has been seen over an extended period by the physician.

A title which says "case report and follow-up" will not, however, become routinely FOLLOW-UP STUDIES unless the subject has been observed over a long period. An article on the administration of a therapy and then a check on its results is not necessarily to be indexed under FOLLOW-UP STUDIES even though the author uses this term. The time element over an extended period must figure.

FOLLOW-UP STUDIES is a good place to index "mass prognosis" or prognosis in statistical samples. Certainly you will not index under PROGNOSIS on a large statistical basis.

When a specific disease or other concept is IM, always make FOLLOW-UP STUDIES NIM. If the article concerns the follow-up study or follow-up studies in general as a statistical or epidemiological method, with the disease aspect incidental, by all means IM FOLLOW-UP STUDIES.

The matter of the proper check tags must be discussed in relation to the use of FOLLOW-UP STUDIES with a single patient.

If an author reports a case first seen when the patient is 6 months old, with examinations by the physician as the child ages, continuing to see the child periodically until he reports on him at the writing of the article - let us say - when the child is 7 years old, the indexer must check the tag for only the age at which the physician first saw the child: INFANT (1-23 months).

TN FRACTURES /therapy; FRACTURES /surgery; FRACTURE FIXATION
87

This area of indexing needs some delineation. Guidelines are given below and will be introduced into the next revision of the Indexing Manual.

1. Index conservative or non-surgical reduction of fractures under FRACTURES /therapy.

MeSH headings to cover two types of treatment are TRACTION and MANIPULATION, ORTHOPEDIC - either of which may be added to the data form if pertinent in the article.

2. Index the surgical reduction of fractures under FRACTURES /surgery.

If the MeSH terms OSTEOTOMY or again TRACTION are pertinent to the article, index under them also.

3. Fixation of a fracture refers to the immobilization of a reduced fracture until it has healed. For this concept use FRACTURE FIXATION.

If discussed in the article, the MeSH headings SPLINTS, TRACTION and CASTS, SURGICAL are also available.

FRACTURE FIXATION, INTRAMEDULLARY is to be used only when a metal shaft is placed through the broken bone via the bone marrow (hence the term "intramedullary nailing" seen often in the literature).

4. FRACTURE FIXATION, INTERNAL will refer to pins, plates, nails, etc., placed onto or into the bone but not intramedullarily.

In summary, all articles on fracture surgery are not necessarily fracture fixation. If you index by definition under FRACTURE FIXATION, however, it is not necessary to index also under FRACTURES /surgery.

Index under FRACTURE FIXATION only when this is the point of the article. Add such terms as CASTS, SURGICAL or SPLINTS, etc., only when they are discussed.

Examples: note only the fracture concept is indexed below

Treatment of fractures:

FRACTURES /therapy

Surgical treatment of fractures:

FRACTURES /surgery

Treatment of fractures by bone resection:

FRACTURES /surgery

Fixation of comminuted fractures:

FRACTURE FIXATION

Two-plate fixation of shaft fractures:

FRACTURE FIXATION

Bone grafts in fractures:

FRACTURES /surgery

TN GROWTH (G7) vs /growth & development

95

If an article is on the growth process, its physiology, determinants, the effect of drugs on it, the effect of radiations on growth, and similar aspects where the point of the article is GROWTH and not the identity of the experimental animal in which the growth process was studied, index under the main heading GROWTH (IM) and merely check the experimental animal tag, without a subheading.

If the article, on the other hand, is on the identity of an animal from an anatomical, physiological or veterinary viewpoint, index under the name of the animal with the subheading /growth & development. An article on how fast a cat grows is correctly indexed as CATS /growth & development (IM). Do not also index under GROWTH (MEDLARS INDEXING MANUAL 19.4.30 and 19.5).

TN HEAD INJURIES (C21) and Skull injuries
96

HEAD INJURIES is a good MeSH term for the general, unspecified injuries to the head discussed usually in non-depth articles. Often the details are not delineated or, if delineated, they are spelled out with such specificity that depth-indexing would be out of order in the type of article entitled "Head Injuries" or in the type of journal wherein "head injuries" are discussed. The term "head injury", in point of fact, doesn't tell you much beyond the fact that the head (and not the abdomen or limbs) was injured: it doesn't tell you whether it was, for example, a contusion or a fracture; it doesn't specify whether soft tissue or bone tissue; nor does it localize as face, cheek, chin, scalp, etc.

Reserve HEAD INJURIES as the most general term to use when the author does not specify beyond this. Interpret "skull injuries" as HEAD INJURIES and not as SKULL/injuries unless the author makes it clear that he means only the bony part. Carefully examine the article, however, to see whether a more specific term in C21 is not better: MAXILLOFACIAL INJURIES, FACIAL INJURIES, MANDIBULAR INJURIES, etc., or one of the specific pre-coordinated fracture terms, like MAXILLARY FRACTURES, SKULL FRACTURES, etc. See TN 115.

"Craniocerebral injury" should be examined for maximum specificity: does the author mean HEAD INJURIES or BRAIN INJURIES or both? If the brain is injured, prefer - of course - BRAIN INJURIES. In most articles, the term "craniocerebral injury" will be indexed only as BRAIN INJURIES since most articles emphasize the cerebral aspect of the blow rather than the cranial aspect. BRAIN CONCUSSION is also a MeSH term.

TN HEALTH SURVEYS (G3, N1) and other surveys
97

HEALTH SURVEYS should not be used to cover the word "survey" used by authors in titles and texts.

All "surveys" are not the MeSH term HEALTH SURVEYS. Follow the MeSH definition in the use of both this term and NUTRITION SURVEYS. Very often the concept of "survey" need not be brought out at all, since it may be only the turning of a phrase by the author. Sometimes it means that a review article is in your hands. Often the subheading /occurrence is in order. Too, it may mean just a general view of a given subject from many angles.

When you see the word "survey" in a title, try to determine whether the author means anything precise in his use of the word. Avoid HEALTH SURVEYS unless it meets the MeSH definition. We do not want to undermine the force of this heading.

TN
98

HEARING and AUDITORY PERCEPTION

Distinction between these two headings corresponds to the same distinction between VISION and VISUAL PERCEPTION: HEARING and VISION are physiological concepts taking place in the ear and the eye, respectively, on an organic level, while AUDITORY PERCEPTION and VISUAL PERCEPTION take place on the cortical level, i.e., in the brain. HEARING articles tend to be in otorhinolaryngology journals, AUDITORY PERCEPTION articles, in psychology journals; VISION articles similarly, tend to be in ophthalmology journals, VISUAL PERCEPTION articles in psychology journals.

TN
99

HEART RATE (G9) vs BRADYCARDIA and TACHYCARDIA (C14)

The terms "bradycardia" and "tachycardia" appear in the literature in two ways: as disease entities or as a description of heart rate. The indexer should look at the text closely to see which the author means.

If he is describing a disease condition, BRADYCARDIA or TACHYCARDIA - each of which is in Category C only - is the correct term. If, however, the bradycardia or tachycardia is used to describe a more or less transitory slowing down or speeding up of the heart rate in response to a drug or in a physiological, psychological or experimental state, then the correct heading is HEART RATE.

If a drug quickens the rate, index under HEART RATE /drug effects (IM), the name of the drug with /pharmacodynamics (IM) and STIMULATION, CHEMICAL (NIM). If the drug slows the pace, make the last term DEPRESSION, CHEMICAL (NIM).

TN
109

Category C16 and INFANT, NEWBORN, DISEASES

According to logic and stated indexing policy it is both unnecessary and wrong to coordinate Category C16 terms with INFANT, NEWBORN, DISEASES. This is interdicted in the MEDLARS INDEXING MANUAL: 18.5.10 on INFANT, NEWBORN, DISEASES and the check tag INFANT, NEWBORN; 21.34, 21.35 on abnormalities; 23.26.1 et seq. on abnormalities; 23.26.4, 23.27 and 23.27.1 on congenital diseases; 23.27.2 on congenital vs neonatal.

Here is the policy for indexing Category C16 terms:

1. Do not index any C16 term with the subheading /congenital nor with the coordinate INFANT, NEWBORN, DISEASES.
2. Do not index ABNORMALITIES and its indentions with the subheading /congenital nor with the coordinate INFANT, NEWBORN, DISEASES.

This rule applies also to any Category A term used with the subheading /abnormalities (LIVER /abnormalities BUT NOT also INFANT, NEWBORN, DISEASES).

3. Do not coordinate any term indented in C16 under INFANT, NEWBORN, DISEASES with INFANT, NEWBORN, DISEASES. All of these diseases are by definition and by indentation present at birth, so neither /congenital nor INFANT, NEWBORN, DISEASES should be used.
4. INFANT, NEWBORN, DISEASES is to be used only for neonatal diseases in general or unspecified in the article.

This use became effective in 1984. Prior to that date, it was used also as an IM coordinate for a specific disease developing in the neonatal period defined by the data form check tag as the first month of life.

A staphylococcal infection in a newborn infant - not specified as congenital and shown by the text to have developed after birth - was formerly indexed as STAPHYLOCOCCAL INFECTIONS (IM) + INFANT, NEWBORN, DISEASES (IM) + the check tag INFANT, NEWBORN (NIM). Effective with 1984 indexing this article will be indexed as STAPHYLOCOCCAL INFECTIONS (IM) + the check tag INFANT, NEWBORN.

5. Most articles on Category C16 terms and other abnormalities and neonatal diseases concern the newborn infant and are to be checked with the tag INFANT, NEWBORN (NIM). Articles on congenital diseases are also checked with the INFANT, NEWBORN (NIM) tag, but since some congenital states may not be discovered until late in life, the correct age tag should be indicated if it is not INFANT, NEWBORN. Do not, however, index under INFANT, NEWBORN, DISEASES.
6. Not enough attention is paid to the use of /congenital as a subheading. Indexers appear to use it only when the title says "congenital". Unless a title states "congenital" explicitly, the indexers are often wrongly substituting INFANT, NEWBORN, DISEASES.

Some disease states associated with abnormalities or congenital diseases are medically unlikely to develop within hours or days of birth: they are patently prenatal or present at birth and hence "congenital." For example, "Neonatal intracranial teratoma" with cleft lip and palate and other abnormalities is correctly indexed with terms to cover the multiple abnormalities, but wrongly coordinated with BRAIN NEOPLASMS /complications + TERATOMA /complications + INFANT, NEWBORN, DISEASES: the current indexing is BRAIN NEOPLASMS /congenital + TERATOMA /congenital but, according to the above rules, NOT also under INFANT, NEWBORN, DISEASES.

7. When a neonatal disease is the direct result of a congenital defect or disease, index under the name of the disease with the subheading /congenital and do not coordinate with INFANT, NEWBORN, DISEASES. For example, pulmonary hypertension caused by patent ductus arteriosus should be indexed under DUCTUS ARTERIOSUS, PATENT /complications + HYPERTENSION, PULMONARY /congenital - not HYPERTENSION, PULMONARY /etiology + INFANT, NEWBORN, DISEASES.

In other words, when an abnormality or congenital disease causes a complication which itself is NOT in Category C16, it is medically likely that the complication was present in the fetus or in the infant at birth. In such cases even though the author does not use the word "congenital" in his title, the text and meaning will usually show this to call for /congenital and not INFANT, NEWBORN, DISEASES. Although indexers are cautioned not to make diagnoses, they are required to read texts carefully and to use good sense.

For depth indexing prefer the /congenital combination as IM and an additional subheading as NIM. In the pulmonary hypertension example above, HYPERTENSION PULMONARY /congenital would be IM, HYPERTENSION, PULMONARY /etiology as NIM if the indexer chooses to use it.

8. Do not coordinate organs to which you have attached the subheading /abnormalities with INFANT, NEWBORN, DISEASES. The definition of /abnormalities suggests the presence in the neonate.
9. Familiarize yourself with Category C16 terms not usually thought of as "congenital." For example, KIDNEY, POLYCYSTIC is in C16 under UROGENITAL ABNORMALITIES (NON MESH) and, therefore, should not be indexed with /congenital.

TN INSECTS (B1) and INSECTICIDES (D5)

111

Do not use subheadings when indexing the effect of insecticides on insects. This applies to the main heading INSECTICIDES and the specific insecticide headings and to INSECTS and specific insect headings.

The effect of DDT on houseflies is indexed as DDT and HOUSEFLIES, NOT as DDT /pharmacodynamics and HOUSEFLIES /drug effects, when the insecticide is meant for the happy purpose of killing insects.

If, however, the article concerns the effect of an insecticide on a specific physiological, chemical, behavioral or other aspect of insect life, then the proper relative subheadings are in order. The effect of DDT on cholinesterase in the housefly is indexed as DDT /pharmacodynamics (IM), HOUSEFLIES /enzymology (IM) and CHOLINES-TERASE (with an applicable subheading) (IM).

TN INTERNATIONAL COOPERATION (I1)

112

Do not use this heading for international congresses in the absence of a geographic heading to cover the "international" aspect.

"International congress" denotes the presence of peoples from various nations attending a congress. This cannot be indexed easily. If "international" refers to many countries on a single continent, like one whose attendees are from many European nations, then EUROPE, for example, is acceptable. But unless something simple like this can be done, ignore "international." Do not index under the name of the country in which the congress is held.

TN Jaw injuries
115

There is a confusing array of terms for various facial and jaw injuries in Category C21. Follow the pattern below in indexing.

MANDIBULAR INJURIES - for injuries of the mandible (lower jaw) only

MAXILLA /injuries - for injuries of the maxilla (upper jaw) only

JAW /injuries - for injuries of the jaw where the author has not specified upper or lower jaw

MAXILLOFACIAL INJURIES - for injuries in this area where, again, the author has not been specific. This term will figure most often in articles on automobile accident injuries or on gunshot wounds or on various war wounds. The popular term "maxillo-facial injuries" as used by authors has a flavor which none of the above terms has.

FACIAL INJURIES - for injuries of the soft parts or even the bony portions but the term as used by authors often does not specify

FACIAL BONES /injuries - for injuries of the facial bones in general where the author does not specify the individual bones of the face (e.g., ORBIT, ZYGOMA)

This entire matter should follow the lines of the greatest specificity as usual. If in doubt, index by the words of the author or by his intent. If still in doubt, ask your reviser.

It would be well to note here that the indexer should not forget the MeSH terms available for fractures in this anatomical area. There are also in C21 JAW FRACTURES, MAXILLARY FRACTURES, MANDIBULAR FRACTURES, SKULL FRACTURES and ZYGOMATIC FRACTURES.

TN Joints of animals
117

Reserve ANKLE, ELBOW, KNEE, etc. and their corresponding joint headings (ANKLE JOINT, ELBOW JOINT, KNEE JOINT, etc.) for man and other primates. Do not use the joint headings for non-primate animals, even for veterinary animals where the author himself uses such words as "dog's elbow." Instead, use the MeSH headings such as HINDLIMB, FORELIMB and the like, coordinating with JOINTS.

As for insects, ignore even the forelimb/hindlimb aspect and index only as JOINTS or EXTREMITIES as needed.

The table below was worked out with the NLM Veterinary Specialist. It should be used for indexing human and animal articles, clinical and experimental as well as veterinary and anatomical studies. The emphasis in the chart favors the animal taxonomy. When you index locate your heading needs in the proper column and index accordingly.

**Anatomical Conversion Table
MeSH Terms as Used with Various Species**

-- means that the MeSH term will
probably not occur in the literature
on this class

MeSH Term	Man	Non-Human Primates	Vertebrates	Invertebrates
ANKLE	ANKLE	ANKLE	HINDLIMB	--
ARM	ARM	ARM	FORELIMB	--
ELBOW	ELBOW	ELBOW	FORELIMB	--
EXTREMITIES	EXTREMITIES	EXTREMITIES	EXTREMITIES	EXTREMITIES
FINGERS	FINGERS	FINGERS	TOES (IM) + FORELIMB (NIM)	--
FOOT	FOOT	FOOT	FOOT (IM) + HINDLIMB (NIM) FORELIMB (NIM)	EXTREMITIES
FOREARM	FOREARM	FOREARM	FORELIMB	EXTREMITIES
FORELIMB	ARM or FOREARM	ARM or FOREARM	FORELIMB	EXTREMITIES
HALLUX	HALLUX	HALLUX	--	--
HAND	HAND	HAND	FOOT (IM) + FORELIMB (NIM)	--
HEEL	HEEL	HEEL	--	--
HINDLIMB	LEG	LEG	HINDLIMB	--
HIP	HIP	HIP	HIP	--
JOINTS	JOINTS	JOINTS	JOINTS	JOINTS
KNEE	KNEE	KNEE	HINDLIMB	--
LEG	LEG	LEG	EXTREMITIES or FORELIMB or HINDLIMB	EXTREMITIES
NAILS	NAILS	NAILS	HOOF AND CLAW	--
SHOULDER	SHOULDER	SHOULDER	SHOULDER	--
THIGH	THIGH	THIGH	THIGH	--
THUMB	THUMB	THUMB	--	--
TOES	TOES	TOES	TOES (IM) + HINDLIMB (NIM) or FORELIMB (NIM)	
WRIST	WRIST	WRIST	FORELIMB	--

The specific joint terms (ANKLE JOINT, KNEE JOINT, etc.) are represented in this table by only the base term (ANKLE, KNEE, etc.). For indexing joints, use the MeSH joint term for animals exactly as you do with human joint articles.

TN LITERATURE (K)

121

Do not use this heading for anything which, regardless of the translation of the title, really means BIBLIOGRAPHY. For example, "A survey of Soviet literature on parasitology" is PARASITOLOGY (IM) and BIBLIOGRAPHY (IM) but not LITERATURE. "Soviet literature on surgical staplers" is SURGICAL STAPLERS (IM) and BIBLIOGRAPHY (IM), again, not LITERATURE. "Syphilitics in French literature" is correctly indexed as SYPHILIS (IM) and LITERATURE, MODERN (IM) and MEDICINE IN LITERATURE (IM).

LITERATURE is meant for this use and for what is commonly called "literature" as one of the arts. It is not to be construed as a synonym for bibliography which is patently the more common use in INDEX MEDICUS.

TN Materials: surgical, prosthetic, orthopedic, etc.

124

Searchers have requested that materials used in various procedures be accounted for in indexing. Frequently the material figures in discussions of adverse effects, where the material itself, rather than the procedure, produces an adverse reaction. In such cases index under the procedure (probably in Category E) with the subheading /adverse effects and also under the name of the material or substance (probably in Caterogy D or J), also with the subheading /adverse effects. Making both headings IM or NIM will depend, as usual, on the point of the article.

For example, an article on a steel pin used in intramedullary nailing, causing necrosis, would be indexed under FRACTURE FIXATION, INTRAMEDULLARY /adverse effects (IM), ALLOYS /adverse effects (IM), FRACTURE FIXATION, INTRAMEDULLARY /instrumentation (NIM) and BONE NAILS /adverse effects (NIM) - with the bone necrosis covered also, of course.

TN MEDICINE, CHINESE TRADITIONAL and Medicine in China

125

In the literature we see, the expression "Chinese medicine" usually refers to traditional Chinese medicine and, indeed, the MeSH definition of MEDICINE, CHINESE is "a system of traditional medicine which is based on the beliefs and practices of the Chinese culture."

The annotation for MEDICINE, CHINESE TRADITIONAL (and CHINESE MEDICINE before it) has said since 1975, "not for medicine in China (= MEDICINE + CHINA)." This was to suggest that just as lighthouse keeping is not the same as light housekeeping, Chinese medicine is not the same as medicine in China.

Many articles on Chinese medicine discuss Chinese plants and Chinese drugs, with titles often containing the words "in traditional Chinese medicine." Note, however, that traditional Chinese medicine is not restricted to herbal medicine, for traditional Chinese medicine includes - to give two examples - acupuncture and moxibustion.

Follow the policy below in general for Chinese medicine and medicine in China:

MEDICINE, CHINESE TRADITIONAL:

Index "Chinese medicine" unspecified under MEDICINE, CHINESE TRADITIONAL.

Index a Chinese drug or Chinese plant under the name of the drug (IM) or PLANTS, MEDICINAL or the specific plant (IM). Add MEDICINE, CHINESE TRADITIONAL if discussed, usually NIM. Tend to make it IM if it is in the title and the point is the traditional Chinese medicine.

Medicine in China:

Index "medicine in China" under MEDICINE (IM) + CHINA (NIM) but keep in mind that this is the most general concept of medicine as a field, in the sense that astrophysics or engineering is a field.

MEDICINE must include all aspects of the profession and in our system should be little used.

Articles on "medicine in China" will turn out to be more than likely on medical care, medical services, the organization of medicine, etc. For this we have far better headings than MEDICINE. Better will doubtless be PUBLIC HEALTH, NATIONAL HEALTH PROGRAMS, DELIVERY OF HEALTH CARE, HEALTH SERVICES and all of the related terms in Category N. Use these instead of MEDICINE, coordinated with CHINA. All of these headings should be used just as you use them with other nations.

TN MITOCHONDRIA (A11)

126

The problem arises as to whether the metabolism of mitochondria is indexed under the name of the organ with the subheading /metabolism or with /ultrastructure: i.e., the metabolism of mitochondria of the pancreas as PANCREAS /metabolism or PANCREAS /ultrastructure.

The answer depends on whether the article is depth or non-depth and on what the point of the article is.

If the article is depth, index - for example - under both PANCREAS /ultrastructure and PANCREAS /metabolism, making IM only the heading which is the POINT of the article.

If the article is non-depth, index under only the POINT of the article, either PANCREAS /ultrastructure or PANCREAS /metabolism. If you index under both, so much the better, provided other required coordinations do not send the article over the line into misleading depth.

A similar example would be an article on the effect of reserpine on pancreatic mitochondria. If the point of the article is the mitochondria, index as PANCREAS /ultrastructure (IM) and PANCREAS /drug effects (NIM), assuming it were depth. If, on the other hand, the point were the effect of the drug, make PANCREAS /drug effects (IM) and PANCREAS /ultrastructure (NIM).

The indexer will, of course, index also under MITOCHONDRIA (with the proper subheadings) in all cases (IM). You are reminded that MeSH has three specific mitochondria terms, MITOCHONDRIA, HEART; MITOCHONDRIA, LIVER; and MITOCHONDRIA, MUSCLE in Category A11. Two more mitochondria headings are available in Category G4: MITOCHONDRIAL CONTRACTION and MITOCHONDRIAL SWELLING. DNA, MITOCHONDRIAL (D13) is also available.

TN MODELS, THEORETICAL (H)

128

MODELS, THEORETICAL is used for theoretical models in general or unspecified. MeSH gives us six specific model terms which pertain to much literature we see: MODELS, BIOLOGICAL; MODELS, CARDIOVASCULAR; MODELS, CHEMICAL; MODELS, GENETIC; MODELS, NEUROLOGICAL; MODELS, PSYCHOLOGICAL.

The MeSH definition for each of the above says "theoretical" and mentions the possible use of a computer or other electronic equipment.

MODELS, CHEMICAL is a theoretical model in chemistry; MODELS, PSYCHOLOGICAL is a theoretical model in psychology; etc. It is therefore not necessary to multiple-index under both MODELS, PSYCHOLOGICAL and MODELS, THEORETICAL for the same concept since all model terms are theoretical by the MeSH definition. Moreover, if a theoretical model concerns psychology, it is wrong to index under MODELS, THEORETICAL: the specific is enough.

Interpret the specific headings this way: if a theoretical model relates to biology (physiology), chemistry or psychology, index under the specific model heading. Use MODELS, THEORETICAL for fields or concepts which do not fall into these four popular areas. Models on respiration, immunity, insect flight dynamics and the like are WRONGLY indexed under MODELS, THEORETICAL: they should all be indexed under MODELS, BIOLOGICAL. On the other hand, models on health services, disaster prevention, urban planning and nursing are all correct under MODELS, THEORETICAL: they do not easily fall into one of the specific model headings.

TN MOTION PERCEPTION (F2) and KINESTHESIS (F2, G11)
129

MOTION PERCEPTION refers to perceiving movement external to the viewer. How fast one thinks an object moves in space - a baseball, an automobile, a person running, an airplane, a moving target - is MOTION PERCEPTION. But the sensation of motion within a person is KINESTHESIS. The psychiatric dictionary defines it as "perception of one's own movement" and the psychological dictionary as "the sense that yields knowledge of the movements of the body or of its several members."

Here are some concepts which can be indexed under KINESTHESIS or KINESTHESIS/physiology and NOT under MOTION PERCEPTION:

- reaction to free-fall
- effect of diagonal posture on movement and postural adjustment
- direction selectivity
- neuronal mechanisms in directional sensitivity
- sensation of self-motion
- psychological comparison of vertical and angular vibration
- detection of constant rotary acceleration during vibratory rotary acceleration
- dynamic response to semicircular canal afferents

TN MOVEMENT (G11)

130

Too often MOVEMENT is made IM by indexers. Although they are making correct judgments in differentiating MOVEMENT, MOTION and LOCOMOTION, the matter of IM vs NIM for MOVEMENT remains to be considered.

MOVEMENT as IM should be predominantly a general concept, with physiological overtones and at best the movement of the whole body or a generous portion of it. The following titles are IM MOVEMENT concepts: "Avoidance performance in exploratory movement", "Study of three stretching technics", "Personal space as influenced by sex and type of movement", "A simple method for assessing body movement", even "Normal knee movement".

Here are titles representing MOVEMENT when NIM: "Recording velar movement", "Measuring lip movement during speech", "Movements and positions of the pinnae of the African elephant", "Extremely small motions of the basilar membrane in the inner ear". In each case, the MOVEMENT angle is an NIM parameter for search delineation, not for construct as our meaning of MOVEMENT when appearing in INDEX MEDICUS.

TN MUSHROOM POISONING (C21)

133

This heading refers to poisoning from "poisonous" mushrooms, i.e., the result of poisoning by toxins produced by various mushrooms. The most common is Amanita phalloides poisoning which should be coordinated as MUSHROOM POISONING (IM) + AMANITA (NIM).

When one is poisoned by eating mushrooms prepared as food, such as pickled mushrooms or canned mushrooms or curried mushrooms, this is NOT indexed under MUSHROOM POISONING. Index instead as MUSHROOMS (IM) and FOOD POISONING (IM) or other applicable heading.

TN NEOPLASMS (C4)

135

MeSH collects the various specific histological types of neoplasms under such general histological terms as NEOPLASMS, VASCULAR TISSUE; NEOPLASMS, DENTAL TISSUE; NEOPLASMS, EMBRYONAL AND MIXED; NEOPLASMS, NERVOUS TISSUE; etc. The groups should be interpreted as neoplasms composed of the tissue type, not neoplasms of the organs involved. That is, NEOPLASMS, NERVE TISSUE means neoplasms composed of nerve tissue, not neoplasms of various nerves.

Since MeSH has given you also very specific names of histological types indented under these very general headings, there is almost never any need to use these general terms. In fact with the indexing

policy centering about specific indexing in this area, even in Priority 3 journals - because of the importance of cancer in medicine today - these terms are useless for indexing purposes. They are in MeSH for grouping for (predominantly) searchers.

Avoid such indexing as NEOPLASMS, VASCULAR TISSUE: prefer instead the specific types, e.g., GLOMANGIOMA, ANGIOSARCOMA, HEMANGIOMA, etc. Of course, you will also index under the site according to policy.

TN NEOPLASMS in veterinary animals
136

The indexer is advised that BREAST NEOPLASMS and STOMACH NEOPLASMS should be reserved for breast and stomach as such, and should not be used for tumors of the mammae and udder or the rumen and its anatomical subdivisions - all terms in Category A13. STOMACH NEOPLASMS can be used for both humans and animals but should not be indexed as coordinates for tumors of the rumen, abomasum, etc., of ruminants.

Follow the pattern below given for hypothetical articles (check tags are not indicated in the illustrations):

Mammary cancer in a pet dog: DOG DISEASES (IM) + MAMMAE (IM)
+ NEOPLASMS /veterinary (IM)

Cancer of the udder in a cow: CATTLE DISEASES (IM) + UDDER (IM)
+ NEOPLASMS /veterinary (IM)

Cancer of the rumen in a cow: CATTLE DISEASES (IM) + RUMEN (IM)
+ NEOPLASMS /veterinary (IM)

MeSH has two see references with regard to mammae: MAMMARY GLANDS
see BREAST for humans and MAMMARY GLANDS, ANIMAL see MAMMAE.

The indexer is reminded, of course, of the MeSH term MAMMARY NEOPLASMS, EXPERIMENTAL. This is not at issue in this memorandum, however.

TN NIH Consensus Development
138

MeSH contains this cross-reference:

NIH CONSENSUS DEVELOPMENT see NATIONAL INSTITUTES
OF HEALTH (U.S.)

It has been agreed that indexers would make an attempt to supply the words NIH Consensus Development in a title when possible in accordance with general indexing policy in the MEDLARS INDEXING MANUAL 14.5.7.3.

Follow these guidelines as practice in the routine indexing of articles identified with the NIH consensus program:

1. Index under NIH as IM if the article is on the NIH Consensus Development conference as a subject. E.g., "NIH consensus process threatened" and "Pros and cons on NIH consensus conferences" are correctly indexed under NIH (IM).
2. Index under NIH as NIM if the article is on a specific subject (IM) featured at an NIH Consensus Development conference.
3. If the words NIH Consensus Development appear as part of the title, include the words in the title by the usual title marking symbols.
4. If the words NIH Consensus Development do not appear as part of the title but are found instead in a footnote or at the end of the article or in the body of the text, supply the words NIH Consensus Development at the end of the title of the article.

TN OSTEOPATHY (G2)
143

MeSH designed this as a specialty heading and did not mean it to be considered a Greek translation for "bone diseases".

Be careful when approaching the word "osteopathy" in English and especially in foreign literature. It will probably mean the heading BONE DISEASES and not OSTEOPATHY, the specialty.

An article entitled "Uremic osteopathy" is not indexed under OSTEOPATHY. Clearly this is an article on uremic bone disease and not OSTEOPATHY, the specialty. Similarly "the osteopathic lesion" is probably not OSTEOPATHY.

The combination OSTEOPATHY/ education is a correct combination. The proper coordinate is EDUCATION, MEDICAL or any of its indentions.

TN OXYGEN subheadings
145

OXYGEN involved in the pulmonary respiratory process is indexed under OXYGEN /physiology. The following titles are correctly indexed under OXYGEN /physiology in addition to other headings:

Regulation of regional perfusion distribution in the lungs: effect of regional oxygen concentration

Impairment of oxygen transfer in the lung

Effect of changes in inspired oxygen concentration on the experimental production of pulmonary edema in the dog

Oxygen exchange in a simulated trout gill

Effect of halothane anesthesia on critical oxygen tension

Depression of serotonin clearance by the rat lung during oxygen exposure

PULMONARY GAS EXCHANGE is available so do not routinely coordinate this with OXYGEN /physiology + CARBON DIOXIDE /physiology. Index the oxygen and/or the carbon dioxide only if you need them for other contexts in the article. For example, "respiratory gas exchange during breathing of oxygen in different inert gases" may be indexed under both PULMONARY GAS EXCHANGE and OXYGEN /physiology.

The physiological role of oxygen outside a pulmonary terrain can also be indexed properly under OXYGEN /physiology. That is, OXYGEN /physiology need not be restricted to its action in pulmonary respiration.

OXYGEN /metabolism is not restricted to the metabolism of oxygen in plants and lower organisms. It may be used also for oxygen metabolism in human or animal tissue as well. It can be used for such concepts as "oxygen transport" and "oxygen binding".

Be careful, however, to differentiate OXYGEN /metabolism from OXYGEN CONSUMPTION. Titles and texts almost always give a clue to OXYGEN CONSUMPTION, for this expression is almost always used. A common synonym for it is "tissue respiration".

Remember that a breakdown of /metabolism is /blood and this should be used especially with the presence of oxygen in the blood or blood cells and with the binding of oxygen to blood components (e.g., hemoglobin).

Do not use OXYGEN /biosynthesis even for the release of molecular oxygen by plants or micro-organisms: this is OXYGEN /metabolism.

"Oxidation" is indexed under OXIDATION-REDUCTION.

"Hypoxia" will lend some confusion. MeSH gives two cross-references: HYPOXIA see ANOXIA and OXYGEN DEFICIENCY see ANOXIA. ANOXIA is in Category C23, treed under respiratory signs and symptoms. As a Category C term it is restricted to ANOXIA as a disease or clinical state of malaise, altered heart and respiration rates, cyanosis, etc. Titles, however, often use the term "hypoxia" to mean merely a decrease of oxygen in such expression as "hypoxic conditions", "hypoxic cells", "hypoxic environment", "hypoxic tissue."

Hypoxia thus used in a non-disease context, may be indexed under OXYGEN /physiology, OXYGEN /metabolism or even OXYGEN /pharmacodynamics depending on the context of the article and the tenor of the study, both in relation to the subheading uses above and the MeSH definition of the subheadings.

"Hypoxia" or the increase of oxygen is indexed the same way.

TN Pets
146

There is a MeSH cross-reference saying "PETS see ANIMALS, DOMESTIC."

Index articles on pets under the name of the animal (IM) and ANIMALS, DOMESTIC (IM or NIM depending on the point of the article). That is, an article on "An attack by a pet ferret" is indexed under FERRETS (IM) + ANIMALS, DOMESTIC (NIM).

Do not assume that an IM DOGS or CATS is automatically a pet merely because it is IM. An article on leukemia from pets, where you picked up DOGS and CATS as IM, should also be indexed for the pet angle under ANIMALS, DOMESTIC (IM).

Do not, however, start indexing veterinary articles saying such things as "arthritis in a pet beagle" under ANIMALS, DOMESTIC: this reminder here is directed to articles on animals as pets or pets where the pethood is the point.

TN PLANTS and PLANTS, MEDICINAL (B6)
148

Although there are over 60 plant species names in MeSH, headings in use at NLM since 1960, the date of publication of the first edition of MeSH, they are not heavily used or seen in our literature. In point of fact there are only three journals listed in the LIST OF JOURNALS INDEXED IN INDEX MEDICUS under Botany, and under Pharmacology and under Pharmacy only a few of the journals are in the field of Pharmacognosy. For all these reasons indexers tend to forget that MeSH still has a wide coverage of species and other common names for many plants figuring in the literature we see as therapeutic agents (particularly in developing countries), as the source of alkaloids, as the source of phytagglutinins, and as food.

Under our rules of specificity, the plant headings should be used more often. Since articles on them constitute a small part of our indexed literature, indexers tend to be remiss in checking MeSH every time for every article on a plant.

Review the coverage of Category B6 to familiarize yourself with what is there. Note that the specific genus names of many plants there have been familiar to medical historians for many centuries.

The indexers assigned such journals as PLANTA MEDICA and pharmacognosy journals should get into the habit of indexing with Category B6 open at their desks and to use it routinely. By the same token any indexer confronted with a plant name should routinely check MeSH. In addition to the close-to-a-hundred genus names, there are numerous see references in MeSH.

The MEDLARS INDEXING MANUAL and indexing policy have always favored the indexing of plant names. Section 22.30 discusses this area. Always index the specific name of the plant if it is in MeSH, making it IM or NIM, depending on the slant of the article.

In indexing articles on alkaloids, both the alkaloid and the plant will be IM; in indexing LECTINS and other plant agglutinins, the plant name will probably be NIM; in indexing the plant as food, the plant name will probably be IM.

See the Manual at 36.25 concerning geographical terms for the origin of plants.

In addition to the main headings for plant names in Category B6, here is a collection of all the see references in MeSH to further help you achieve maximum specificity:

BETEL	<u>see</u>	ARECA
CABBAGE	<u>see</u>	BRASSICA
CELANDINE	<u>see</u>	CHELIDONIUM
CHRYSANTHEMUM	<u>see</u>	PYRETHRUM
DATURA	<u>see</u>	STRAMONIUM
DRYOPTERIS	<u>see</u>	ASPIDIUM
HASHISH	<u>see</u>	CANNABIS
LICORICE	<u>see</u>	GLYCYRRHIZA
LUCERNE	<u>see</u>	ALFALFA
MAIZE	<u>see</u>	CORN
MALE FERN	<u>see</u>	ASPIDIUM
MANIOC	<u>see</u>	CASSAVA
MARIHUANA	<u>see</u>	CANNABIS
MISTLETOE	<u>see</u>	VISCUM
MYRISTICA	<u>see</u>	NUTMEG
NERIUM	<u>see</u>	OLEANDER
PLANTAIN	<u>see</u>	PLANTAGO
RAPESEED	<u>see</u>	BRASSICA
RHEUM	<u>see</u>	RHUBARB
SCILLA	<u>see</u>	SQUILL

TN PNEUMOCONIOSIS complications
151

If any pathological state arises as a result of any of the pneumoconioses, index under the name of the disease caused by the pneumoconiosis with the subheading /etiology, rather than with /chemically induced. For example, asbestosis causing lung cancer is indexed as ASBESTOSIS /complications (IM) and LUNG NEOPLASMS /etiology (IM) rather than LUNG NEOPLASMS /chemically induced.

This is because it is not the chemical nature of the dust which causes the secondary disease, but its physical properties. The subheading /chemically induced was created to specify the origin of a disease as directly related to the chemical or chemical compound itself.

Using asbestosis as an example, we find that it is not the asbestos as a compound of magnesium and calcium silicate that causes cancer, but the asbestos fibers, hence /etiology.

TN PORTRAITS (K)
154

This heading has been in MeSH since 1950. It has been used by indexers as an IM term for articles on portraits as an art form or when a specific portrait of a historical person is the subject of an article.

Beginning in 1980 PORTRAITS has been indexed, in addition, as NIM in a highly specialized use.

When an article contains a portrait of the subject of a biographical article, index the article as you do any current or historical biography, but add another term as NIM: PORTRAITS.

Indexing with PORTRAITS (NIM) makes available to online users citations to articles containing one or more portraits of a given sitter.

The concern of the History of Medicine Division is the quality of the portrait in your journal and its ability to be reproduced by them when a requester needs a reproduction.

When you type PORTRAITS on a data form you are informing the searcher that a portrait is present in an article which his requester can look at directly in the journal. In this instance, reproducibility is not at issue and the quality is irrelevant.

In other words, for the portraits you flag for the attention of the History of Medicine Division, maintain the quality standard. For those you index with the main heading PORTRAITS, the quality is not important.

Continue to flag all portraits as you have done in the past. If a portrait is published as a frontispiece or elsewhere in the issue, even the cover, without substantive indexable text, continue to flag it too.

Quality Control Unit prepares so-called "portrait cards" for each single or group portrait you flag - with or without accompanying text. These are sent monthly to History of Medicine Division for their union catalog of references to portraits coming from other sources too. HMD has some 30,000 portraits in its collection and almost 100,000 references to portraits in its files.

Indexing instructions on the use of PORTRAITS (IM) and PORTRAITS (NIM) are given in the MEDLARS INDEXING MANUAL in section 32.14.

Portrait	
EVERSON, Gladys J (1909-1969)	
Bulletin of the History of Medicine 52(3):733, Fall 78	
W1 BU85X	
IM	h1/jj
	O

TN X-RAYS (H)
158

In INDEX MEDICUS we assume that all RADIATION EFFECTS and /radiation effects are the effects of x-rays unless otherwise specified. This is noted in the MeSH annotation in accordance with policy expounded in the MEDLARS INDEXING MANUAL at 19.4.52, 21.17, 28.17 et passim.

The MeSH entry X-RAYS says

X-RAYS see under RADIATION, IONIZING

and so an article on "the effect of x-rays on collagen" if indexed as COLLAGEN /radiation effects (IM) + X-RAYS (IM) results in an INDEX

MEDICUS entry as RADIATION, IONIZING. By the rule of interpreting all radiation in our literature on the basis of sheer bulk as x-ray-unless-otherwise-specified, only COLLAGEN /radiation effects (IM) is all that is needed. This is covered in the Manual clearly as enumerated above.

This approach to X-RAYS and indeed the heading RADIATION and all related terms is based on the premise that our interest in radiation is to aid in the research on the hazardous effects of radiation whether in radiodiagnosis, radiotherapy, environmental exposure at nuclear reactor sites or through atomic warfare. Hence since most research is on ionizing radiation, there is no point in specifying this every time. We shall not specify the most common ray we see (x-rays) but shall name other specific rays. The Manual delineates this too.

Reserve X-RAYS as IM for the most general of articles, as "X-ray tubes and other historic memorabilia" or "The fascinating story of X-rays. Part III: What are X-rays?" We don't very often get this kind of article: most x-ray articles will be easily processed with the subheading /radiation effects and not with X-RAYS at all.

Read the MEDLARS INDEXING MANUAL at the sections specified above to refresh your approach to the indexing of radiations. Peruse once more the MeSH headings and rules governing them, particularly in using RADIATION, RADIATION, IONIZING and RADIATION, NON-IONIZING.

TN RECEPATORS, DRUG (G12) and CHEMORECEPTORS (A8)
160

Read the MeSH definition and note the MeSH categories to which these headings are assigned.

Remember this distinction: a drug receptor is an area within a cell where reaction with a drug or chemical takes place. A chemo-receptor is a type of neural receptor or terminal of a nerve which is sensitive or responsive to a drug or chemical.

Authors do not use these terms loosely nor should you. Note that CHEMORECEPTORS is in the Nervous System subcategory, while RECEPATORS, DRUG is in G12 with chemical and pharmacological phenomena. Thus it is not neurologic.

Do not confuse receptor terms with binding proteins. The literature is not always clear in this area. Make a decision on the basis of this differentiation: generally a receptor is a protein that binds on the cell surface; a binding protein is intracellular or in tissue fluids. If you can't make a decision, flag the article for the Chemical Specialists.

TN REGIONAL MEDICAL PROGRAMS (N3)

163

MeSH defines this heading as

"Coordination of activities and programs among health care institutions within defined geographic areas for the purpose of improving delivery and quality of medical care to the patients; includes U.S. programs under Public Law 89-239."

Note that the last few words suggest that REGIONAL MEDICAL PROGRAMS includes programs other than those covered by PL 89-239.

While most articles we see will refer to federally supported regional organizations in the United States, the heading may be applied also to similar programs in foreign countries. So there will be no doubt, follow the MeSH annotation and always supply a geographic, including UNITED STATES or one of our states when it applies.

Do not confuse REGIONAL MEDICAL PROGRAMS with the regional planning of health facilities and resources. For these you have available REGIONAL HEALTH PLANNING, HEALTH FACILITY PLANNING, HOSPITAL PLANNING, COMMUNITY HEALTH SERVICES (or other specific services) and possibly other more specific terms. These terms imply supply, distribution, and allocations of resource in order to ensure economic delivery of services to a region.

TN REST (I3) and BED REST (E2)

166

The category assignments suggest the definition: BED REST has been defined by MeSH as "confinement of an individual to bed for therapeutic or experimental reasons."

Do not confuse either with IMMOBILIZATION (G11): all bed rest is not immobilization and all immobilization is not bed rest. Authors generally use the word "immobilization" when they mean it and "bed rest" when they mean that.

IMMOBILIZATION can be either experimental or therapeutic but the emphasis is on the immobile state and its effect. BED REST need not include the concept of immobility.

Do not routinely index articles on EXERTION under both EXERTION and REST when rest appears in a title. Check to see whether the author used "rest" merely as part of the experiment to indicate the termination of the period of exertion. It is possible to ignore the "rest" and to index under the point of the article - usually EXERTION.

TN RETROLENTAL FIBROPLASIA (C11, C16)
167

Textbooks give the cause of retroental fibroplasia as oxygen therapy of premature infants. For this reason, do not bother to index the etiology of retroental fibroplasia under the oxygen angle in the routine retroental fibroplasia article.

If the author makes a great point of the oxygen angle, pick it up probably as OXYGEN THERAPY /adverse effects - probably as NIM - but say RETROLENTAL FIBROPLASIA /etiology, not RETROLENTAL FIBROPLASIA /chemically induced.

TN SALIVA (A12), SALIVATION (C23, G10), SALIVARY GLANDS (A10, A14)
169

Secretion of saliva as SALIVA /secretion, SALIVARY GLANDS /secretion or SALIVATION all overlap. The indexer will have to rely on the slant of the article and the intent of the study to distinguish among them.

SALIVA /secretion will be on the fact or act of the saliva being secreted. SALIVARY GLANDS /secretion will emphasize the salivary glands themselves anatomically or physiologically concerned with their secreting the saliva. SALIVATION will emphasize the process of secretion.

It will probably be easy enough for the indexer with the text in hand to index under SALIVA /secretion when the author discusses the saliva itself; or SALIVARY GLANDS /secretion when he discusses the glands themselves; or SALIVATION when the process is more important than the saliva or the gland. But the searcher, unfortunately, will have to resort to all three in searching since admittedly this is an area of blurred boundaries.

TN SILICON (D1)
172

In differentiating among the rich SILIC- terms and their relatives, be guided by these brief notes:

SILICON (D1) - This is the element

SILICA (D1) - This is an oxide of SILICON and in MeSH is indented under SILICON.

SILICIC ACID (D1) - MeSH says, "SILICIC ACID see under SILICA".

silicates - These are salts of SILICIC ACID and should be indexed under SILICIC ACID. MeSH lists also ALUMINUM SILICATES and SILICATE CEMENT (indented under DENTAL MATERIALS in D25). For other specific silicate, e.g., sodium silicate or calcium silicate, check the SUPPLEMENTARY CHEMICAL RECORDS.

SILICONES (D25) - This is a polymer containing SILICON.
It is often used in prosthetic surgery.

SILASTICS (D25) - MeSH says, "SILASTICS see SILICONE
ELASTOMERS".

TN SKELETON (A2)
173

If one thinks of the skeleton of Halloween, the bone arrangement as a whole, he gets a good idea of the main heading SKELETON. It was never meant for articles on "skeletal lesions", "skeletal manifestations", "skeletal diseases", etc., when the expression of the author and evidence of the text show obviously that bone lesions, bone manifestations and bone diseases are meant.

If you are tempted to use the term SKELETON either be sure you mean the skeleton as a whole (and not bone), or blindly resist the temptation and index under BONE AND BONES: you will do less harm here. Despite the use of the word "skeleton" in titles, users interpret "skeletal" as "osseous" and look under B-for-Bone and not under S-for-Skeleton in INDEX MEDICUS. They unfortunately miss the article on skeletal changes in incontinentia pigmenti hidden under SKELETON.

TN Societies
174

Indexers should differentiate the headings SOCIETIES, SOCIETIES, MEDICAL and SOCIETIES, SCIENTIFIC. The choice among these three headings is based on the composition of the membership and the professional status of the members.

Reserve SOCIETIES, MEDICAL for the conventional medical society and societies of medical specialists. The MeSH definition states that "membership is limited to physicians."

SOCIETIES, SCIENTIFIC will be used for societies of scientists and professionals in the disciplines other than the medical specialties, e.g., American Association for the Advancement of Science, American Association of Anatomists, American Veterinary Association.

SOCIETIES will be used for societies not included in the above scopes.

MeSH has also the following terms: SOCIETIES, DENTAL; SOCIETIES, HOSPITAL see under SOCIETIES; SOCIETIES, NURSING; SOCIETIES, PHARMACEUTICAL.

The presence of the words "society" and "association" do not always ensure the use of the SOCIETIES headings. VOLUNTARY HEALTH AGENCIES is also available and has indented under it AMERICAN CANCER SOCIETY, AMERICAN HEART ASSOCIATION, MENTAL HEALTH ASSOCIATION and TUBERCULOSIS SOCIETIES.

ORGANIZATIONS also exists in MeSH and should be used for organized groups whose members have a common interest "for the purpose of collectively systematizing activities for a particular goal." The Illinois Organization of Mothers of Twins Clubs should be indexed here instead of under SOCIETIES.

TN SPECIES SPECIFICITY (G4)

176

Do not restrict the use of this term to differences between members of only species in the true taxonomic sense (Rattus rattus and Rattus norvegicus; Streptococcus pyogenes and Streptococcus faecalis).

It will be correct to index under SPECIES SPECIFICITY articles on the difference between members of any unit in the taxonomic structure: between phyla (Protozoa and Mollusca, for example), between classes (Sporozoa and Sarcodina), between orders (Ungulata and Carnivora), between families (cat and dog) as well as between species (Streptococcus faecalis and Str. pyogenes) and strains (E. coli strains K-12 and W) and variants.

Although the examples above illustrate with organisms on the same taxonomic level (the orders Ungulata and Carnivora), SPECIES SPECIFICITY can be used for differences between members of any two or more levels, higher or lower in the classification. It will be correct, therefore, to use SPECIES SPECIFICITY for articles on the comparison of fish and monkey blood cells.

SPECIES SPECIFICITY will usually be NIM.

TN Suppurative diseases

178

This term is indexed as SUPPURATION. For specific diseases with suppuration as an inherent part of the disease process, however, index only under the specific disease and do NOT also coordinate with SUPPURATION. For example, suppurative meningitis is indexed as MENINGITIS only: do not also index under SUPPURATION. Occasionally in such diseases the article may discuss the suppurative process or pathogenesis. Although it is very unlikely, should the occasion arise, index under SUPPURATION (NIM). It seldom occurs, and the name of the disease only is almost always adequate.

TN Surgical injuries

179

Often during surgical operations, errors are made which result in the inadvertent sectioning of blood vessels, ureters, etc. If the point of the article is the surgical injury, as we are calling these accidents, index under INTRAOPERATIVE COMPLICATIONS (IM) and the name of the organ with the subheading /injuries (IM). If the surgical procedure is also the point, index this as IM but do NOT use /adverse effects, since the operation itself was not causing the injury. For example, injury to the common bile duct during cholecystectomy is indexed under COMMON BILE DUCT /injuries (IM) + CHOLECYSTECTOMY (IM) + INTRAOPERATIVE COMPLICATIONS (IM).

TN SURVIVAL (I3)

180

MeSH has assigned SURVIVAL to Subcategory I3: Human Activities. As intended by MeSH, SURVIVAL would be restricted to the triumph of the individual or group against the hazards of a hostile environment. It is not used for the response of bacteria to the onslaught of an antibacterial chemical or the response of a person to a disease or surgical intervention.

By the implication of its assignment to Category I, MeSH intended SURVIVAL to be used for articles on persons surviving though lost in a desert, or for persons surviving or seeking to survive after a plane crash in the mountains, or for persons surviving a shipwreck at sea, or for even the survival of a civilization. In this way indexers will not use it for bacterial survival or survival after mastectomy for cancer.

The matter of bacterial survival might be handled in the case of exposure to various drugs or chemicals as the name of the bacterium or other microbe with the subheading /drug effects and, if discussed in the article, DRUG RESISTANCE, MICROBIAL. Although survival after exposure to physical agents, as to heat or cold, cannot be indexed specifically from the "survival" angle (titles could be searched, however, on the word "survival"), do not index as a substitute CELL SURVIVAL. An applicable subheading with the micro-organism might be /growth & development.

The matter of survival after a surgical procedure or a dread disease will be handled by the name of the procedure or the name of the disease, with the subheading /mortality.

TN SWEAT (A12), SWEATING (G7, G10), SWEAT GLANDS (A10)

181

The same problem here is posed above in reference to saliva secretion (see Technical Note 169). When the author discusses the sweat being secreted, index as SWEAT /secretion. SWEATING is the process of the physiological act of sweating. SWEAT GLANDS /secretion of sweat by the sweat glands is acceptable for articles emphasizing the secretion.

Again the text will disclose the slant of the article and the indexer should have little difficulty in making a choice. But again, the searchers will have to search on all three concepts because of the unfortunate overlap.

TN TISSUE CULTURE (E5)

183

Every time TISSUE CULTURE appears in an article it is not necessarily routinely indexed as NIM: it may be third tier. The concept of third-tier indexing is given in the MEDLARS INDEXING MANUAL 20.11. TISSUE CULTURE as NIM or third tier is discussed in 21.57, 22.26 and 26.33.

In accordance with the definition of IN VITRO, do not use this check tag (Manual 18.10).

P.67 is missing

Category E

BLOOD TRANSFUSION (E2)

introduction of whole blood, plasma or cell constituents directly into the blood stream

BLOOD TRANSFUSION, INTRAUTERINE (E2)

an operation whereby a fetus receives an intraperitoneal blood transfusion in utero; used primarily in fetal erythroblastosis (MeSH definition)

BLOOD TRANSFUSION, AUTOLOGOUS (E2)

the transfusion of a person's or animal's own blood or any parts of it after removal from the body.

EXCHANGE TRANSFUSION, WHOLE BLOOD (E2)

repetitive withdrawal of small amounts of blood and replacement with donor blood, until a large portion of blood volume has been exchanged; used in newborn infants with erythroblastosis and in patients with uremia.

PLASMA EXCHANGE (E2)

Removal of plasma and replacement with various fluids, e.g., fresh frozen plasma, plasma protein fractions (PPF), albumin preparations, dextran solutions, saline. Used in treatment of autoimmune diseases, immune complex diseases, diseases of excess plasma factors, and other conditions.

Category G

MATERNAL-FETAL EXCHANGE (G8)

exchange of material between the maternal blood and the fetal blood through the placental barrier (MeSH definition)

blood transfusion, placental

return to the newborn, after birth, and through the umbilical vessels, of the blood contained in the placenta. Index under MATERNAL-FETAL EXCHANGE

Experimental trypanosomiasis

TN
187 When indexing experimental infection with various species of Trypanosoma, do not index merely under TRYpanosomiasis. Index under the specific type; that is, experimental Trypanosoma cruzi infection is TRYpanosomiasis, SOUTH AMERICAN. Similarly experimental T. brucei or T. gambiense infection is TRYpanosomiasis, AFRICAN, not just TRYpanosomiasis.

Clear instructions on causative organisms and infections with the various species of TRYpanosoma are given in the MeSH annotations under the disease and parasite.

Keep in mind, moreover, that when you are discussing the trypanosome as an organism and need a corresponding subheading to coordinate, the correct subheading is /parasitology, not /microbiology: that is, rate of growth of the trypanosome in Chagas disease is TRYPANOSOMIASIS, SOUTH AMERICAN /parasitology, not /microbiology.

TN TRY PANOSOMIASIS, AFRICAN (C3)

188

Since the first ANNOTATED MeSH in 1973, annotations at TRYPANOSOMA BRUCEI BRUCEI and TRYPANOSOMA BRUCEI GAMBIENSE have directed indexers to TRYPANOSOMIASIS, AFRICAN, for *T. brucei* and *T. gambiense* infection.

Upon instructions from MeSH, the current annotation reads, "for trypanosomiasis in tropical Africa caused by any species of Trypanosoma."

TN URINARY DIVERSION (E4)

189

Index urinary diversions under URINARY DIVERSION (IM) and the organ involved in creating the urine receptacle with the subheading /surgery (NIM). Since the ureter is usually the portion of the urinary tract being transposed, do NOT index here. For example, diversion of the urine into the ileum is indexed URINARY DIVERSION (IM) and ILEUM /surgery (NIM), but not also URETER.

TN URINE /microbiology vs BACTERIURIA (C1, C12)

190

BACTERIURIA as defined by MeSH is "the presence of bacteria in the urine with or without consequent urinary tract infection."

This is to be used, then, instead of URINE /microbiology coordinated with BACTERIA. This will not, however, be acceptable for viruses or other organisms isolated from the urine. Obviously reserve BACTERIURIA for bacteria!

Nor does it rule out URINE /microbiology coordinated with BACTERIA (or a specific bacterium) or with BACTERIOLOGICAL TECHNICS when the emphasis of the article is on the technical bacteriological aspects of the presence of bacteria in the urine - as opposed to the presence clinically (BACTERIURIA - a Category C term).

TN WEIGHTS AND MEASURES (H)

192

Indexers are sometimes misinterpreting the meaning of this heading and are using it incorrectly. It refers to types and systems of measurement and IS NOT a synonym for "weight." At present, except for BIRTH WEIGHT, BODY WEIGHT, ORGAN WEIGHT and WEIGHTLESSNESS, there is no MeSH term to cover weight, size, mass or volume. To use WEIGHTS AND MEASURES to mean "weight" is wrong.

Correctly indexed under WEIGHTS AND MEASURES are such articles as "British Standards Institution conversion tables", "What is the American Standards Institute?", "Graphs and scales", "Calorie and joule", "Special radiation units".

METRIC SYSTEM became available in 1974. Correctly indexed here would be "Metrication and decimalization", "Milligrams, milliequivalents or units of standard deviation", "Wet weight determination in the lower milligram range".

Since "weight" does not mean "weights" as we use it, the article "Weight variations of tablets" is not indexed under WEIGHTS AND MEASURES.

TN /veterinary with Category C22 terms
193

Category C22 contains terms for diseases almost exclusively animal diseases and both logic and the MeSH annotations dictate against using /veterinary with them.

It is not unreasonable to think of /veterinary with many of the terms in the category, but /veterinary with patently animals headings like

FELINE INFECTIOUS ENTERITIS /veterinary
SALMONELLA INFECTIONS, ANIMAL /veterinary

are equally patently wrong.

To help the indexer, since the beginning of the annotations, clear cautions have been printed under C22 headings saying "do not use /vet".

All indexers, but particularly those indexing veterinary and parasitology journals, must familiarize themselves with the diseases in C22 so that they will NOT use /veterinary with these diseases. All these headings, moreover, have been annotated to say "do not use /vet but check tag ANIMAL".

TN DEFICIENCY DISEASES (C18)
194

A deficiency disease is one caused usually by the lack or inadequate intake of a dietary substance. You should distinguish a deficiency disease carefully from metabolic deficiencies (adequate intake but metabolic mishap). These are better indexed as METABOLIC DISEASES as the coordinate or METABOLISM, INBORN ERRORS or one of the specifics indented thereunder.

The subheading /deficiency is available for use with Category D. The ANNOTATED MeSH notes restrictions with certain specific D terms where the use of /deficiency would either defy sense or the MeSH definition or would be indexed elsewhere under a better precoordinated deficiency term.

/deficiency is used with specific substances but do not also coordinate DEFICIENCY DISEASES. DEFICIENCY DISEASES as IM is only for articles on DEFICIENCY DISEASES in general.

DEFICIENCY DISEASES should not be confused with various enzyme deficiencies which have been indexed - probably correctly - under the name of the enzyme and the proper inborn-error-of-metabolism term, making both IM. For enzyme deficiencies, see TECHNICAL NOTE 222.

DEFICIENCY DISEASES is not meant for deficiencies of immuno-logical components of the blood. See TECHNICAL NOTES 223 and 225.

Various endocrine deficiencies are not to be indexed under DEFICIENCY DISEASES. It is difficult to give indexing instructions in this Technical Note on hormonal deficiencies since so many of them manifest themselves as MeSH headings in Subcategory C19 (Endocrine Diseases). Suffice it to say here that if the article warrants it, index under the name of the hormone with an appropriate subheading and/or the name of the specific endocrine disease from C19. The point of this reminder is to direct you away from interpreting hormonal and enzyme deficiencies as DEFICIENCY DISEASES which are restricted to nutrient deficits.

TN /ultrastructure and MICROSCOPY, ELECTRON
195

Do not assume that if the subheading /ultrastructure is correctly used, it is not necessary to index also under MICROSCOPY, ELECTRON even if micrograph illustrations are present. This is not necessarily true.

If an article of 12 pages shows 4 pages of electron microscope plates illustrating the author's text, this article is to be indexed also under MICROSCOPY, ELECTRON (NIM).

It is true that most articles on /ultrastructure show a micrograph or two. Such articles do not need to be indexed also with MICROSCOPY, ELECTRON under the rule of third-tier indexing.

There is no rule, however, that states that if you use /ultrastructure, you do not also use MICROSCOPY, ELECTRON. You index MICROSCOPY, ELECTRON (NIM) when the perusal of the micrographs would be helpful to the scientist and when the number of micrographs warrants inclusion of this term on the data form.

Both /ultrastructure and MICROSCOPY, ELECTRON are discussed in the MEDLARS INDEXING MANUAL 26.31 and the above statements are repeated there as official policy in other words.

TN GENETICS, MICROBIAL (G8)
196

When indexing in the field of microbial genetics, index under the specific micro-organism with the subheading /genetics (IM) and the specific genetic term (IM) but DO NOT ALSO index under GENETICS, MICROBIAL.

This follows the principle of avoiding both the specific and general for the same item. Although there are occasional exceptions to this rule, this is not one of them.

Such specific concepts as "crisp genes of Neurospora" or "chromosome replication of E. coli" do not go under GENETICS, MICROBIAL: MeSH has provided far more specific adits: GENES, FUNGAL (IM) + NEUROSPORA /genetics (IM) and CHROMOSOMES, BACTERIAL (IM) + ESCHERICHIA COLI /genetics (IM).

TN HEMORRHAGE (C23)
197

Index the hemorrhage of an organ under HEMORRHAGE (IM) coordinated with the organ/disease heading (IM), rather than with the name of the organ with /blood supply. Pancreatic hemorrhage, then, is indexed as HEMORRHAGE (IM) and PANCREATIC DISEASES (IM), not PANCREAS /blood supply.

Note the existence of the following precoordinated hemorrhage headings in MeSH:

CEREBRAL HEMORRHAGE	PEPTIC ULCER HEMORRHAGE
HEMORRHAGE, GASTROINTESTINAL	RETINAL HEMORRHAGE
HEMORRHAGE, ORAL	SUBARACHNOID HEMORRHAGE
HEMORRHAGE, POSTPARTUM	UTERINE HEMORRHAGE

When a specific part of the organ is discussed (a site in the brain or the mouth, a portion of the gastro-intestinal tract, etc.), specify as IM the organ or pre-coordinated organ/disease term. For example, index PEPTIC ULCER HEMORRHAGE (IM) but also specify DUODENAL ULCER (IM) or STOMACH ULCER (IM) if you can.

Hemorrhage in pregnancy is indexed with the required hemorrhage term coordinated with PREGNANCY COMPLICATIONS, CARDIOVASCULAR, not PREGNANCY COMPLICATIONS, HEMATOLOGIC. This is discussed in the MEDLARS INDEXING MANUAL 18.4.7.

TN WHOLE BODY IRRADIATION (E5)
198

WHOLE BODY IRRADIATION is a specific technic. It will be made IM when the point of the article is the irradiation of the entire organism or body, as in "the effect of total-body radiation on the immune process" where the author means the whole body.

There is no change in the use of the main heading RADIATION EFFECTS nor in the use of the subheading /radiation effects. RADIATION EFFECTS

continues to be used for general articles only and appears in INDEX MEDICUS outnumbered by /radiation effects more than 55 to 1. This is not unreasonable under our rules of specificity and the assignment of /radiation effects to Categories A, B, D, F1-2, G4-12 and J. WHOLE BODY IRRADIATION should be used as IM even less than RADIATION EFFECTS!

Do not routinely seek out "whole body irradiation" in every radiation article indexed. Index under it only when it is important as the experimental irradiation method. In most articles it will probably NOT be the point and may even be third tier and hence ignored. It will not be a substitute for /radiation effects, it will only be an amplification of it and then only NIM.

TN ZOONOSES (C1, C22)
199

ZOONOSES presents a particular problem. Read the present MeSH annotation. Here is an amplification.

Index under ZOONOSES for general articles or unspecified zoonotic diseases in general. Here are actual titles correctly indexed under ZOONOSES:

- Recent advances in viral zoonoses
- Vaccine therapy of zoonotic infections
- The global importance of parasitic zoonoses

Do not index every article on the transmission of disease between man and animal as ZOONOSES. Index under the disease with the subheading /transmission. Index under ZOONOSES (probably NIM) only if the zoonotic aspect is discussed.

Diseases known to be zoonotic are not indexed routinely under ZOONOSES. Index there only when the zoonotic process is discussed and make ZOONOSES probably NIM. "Rabies from bats" is indexed under RABIES but not also ZOONOSES; "Rabies as a zoonotic disease" is indexed under RABIES (IM) and ZOONOSES (NIM).

TN BACTERIA: indexing policy
201

When indexing bacteria, look up a genus-cum-species in MeSH. If it is there, use it.

If a genus-cum-species is not in MeSH, the bacterium must be looked up in Bergey routinely.

If a genus (without a species given) is looked up in MeSH and is there, you may accept the MeSH heading.

This reminder refers to types such as *Streptomyces africanus* where, although STREPTOMYCES is a MeSH heading, *Streptomyces africanus* is NOT indexed there. According to Bergey, *Streptomyces africanus* is NOCARDIA.

There happens to be a note in the ANNOTATED MeSH under STREPTOMYCES to the effect that *S. africanus* is NOCARDIA. Since, however, MeSH was not routinely annotated for bacteria thus, accepting a genus term in MeSH for a specific species is dangerous.

TN VIRUSES (B4)

205

Index viruses not in MeSH in the pattern of the principles below. Bear in mind that the indexing instructions are given from the standpoint of the virus as a virus IM. If any NIM identifying parameter indexed to aid the searcher needs to become IM on the basis of the article in hand, naturally it would become IM.

1. Index a virus not in MeSH under the nearest MeSH virus term (IM), using Andrewes if necessary, and the viral host with the subheading /microbiology (NIM).

Dakar bat virus

ARBOVIRUSES (IM)
CHIROPTERA /microbiology (NIM)

2. Index a virus not in MeSH but known to be the causative agent of a disease in MeSH, under the nearest virus term (IM), using Andrewes if necessary, the MeSH disease with the subheading /microbiology (IM) and the viral host with the subheading /microbiology (NIM):

malignant catarrh virus of deer

HERPESVIRUSES (IM)
MALIGNANT CATARRH / microbiology (IM)
DEER /microbiology (NIM)

TN Microorganisms and disease

209

Do not assume that an article on the presence of micro-organisms in an organ or in an animal is an article on a disease of that organ or in that animal.

It is possible to index an article on the presence of *Salmonellae* in the biliary tract without indexing under SALMONELLA INFECTIONS. Do not assume disease.

The existence of all appropriate subheadings assigned by MeSH to Category B bespeaks of the possibility - nay, rather, even the likelihood - of descriptions of organisms irrespective of the disease they cause.

TN A specific drug and its action group
210

There is an occasional need for indexing a drug or chemical under its MeSH heading and also under its action group - also in MeSH. For example SOTALOL is indented in Category D16 under ADRENERGIC BETA RECEPTOR BLOCKADERS.

If you are required to index an article on sotalol as an adrenergic beta receptor blockader, or on its mechanism of action as one, you may index under SOTALOL /pharmacodynamics (IM) and also under ADRENERGIC BETA RECEPTOR BLOCKADERS (IM) - note: no subheading.

The type of indexing above is the rare one. This Technical Note is NOT meant to instruct you to start indexing every specific drug indented under an action group under both the drug and the action group. An article on the hemodynamic effects of sotalol will still be indexed simply as HEMODYNAMICS /drug effects (IM) and SOTALOL /pharmacodynamics (IM) BUT NOT also under ADRENERGIC BETA RECEPTOR BLOCKADERS.

This use of action groups is discussed in the MEDLARS INDEXING MANUAL at 25.20. Action groups are discussed also at 25.17 and 25.18.

TN NEOPLASM STAGING (E1)
214

The staging of cancer is a facet of its pathology, not of its classification, and the proper subheading is /pathology, not classification.

Classifying neoplasms is not the same as staging them. It is possible to classify tumors many ways: by cell type, by tissue of origin, by site, by nomenclature, by any other way the author chooses to group them (epidemiological occurrence, race, sex, age, ethnicity, biochemistry, etc.).

MeSH defines NEOPLASM STAGING as "the extent of the neoplasm in the patient." A very clear exposition is given in Dorland under "staging".

Index the stage of a cancer under the histological type of neoplasm with the subheading /pathology (IM) + the organ/neoplasms term also with the subheading /pathology (IM) + NEOPLASM STAGING (NIM), with no subheading.

Do not confuse "staging" with "grading" which is the word used for the degree of malignancy, not the spread.

Geographic headings

The MEDLARS INDEXING MANUAL discusses the use of the MeSH geographical headings in many sections. Listed in the Index to the Manual under "Geographic headings" are over 20 uses (in epidemiology, with corporate bodies, with ethnic and racial groups, with historical matter, etc.).

Indexers most often use the required Geographic Headings for epidemiological articles with the subheading /occurrence, but they should use a geographic more freely when indexing health programs, hospitals, social security, income tax, legislation, consumer groups, politics and various professional and administrative aspects of services of specific locales, especially of countries and states.

An article in a Belgian journal, for example, on fees charged by Belgian physicians is not adequately indexed under only FEES AND CHARGES; one should not assume that because it is in a Belgian journal, it is obviously Belgian and therefore BELGIUM is not necessary. This is not true. The Belgian article could discuss fees universally without application to Belgium (FEES AND CHARGES) or it could mean local fees (FEES AND CHARGES and BELGIUM).

If the article - so far as the indexer can determine - has local application (i.e., here, Belgian), it is the duty of the indexer to specify BELGIUM. To force a searcher to retrieve Belgian material by searching not only under BELGIUM but also under Belgian journal titles is taking an unfair advantage of him. It is far easier for an indexer to specify a geographic than for a searcher to first locate codes for Belgian journals and then to search the data base on these titles as an added parameter for getting at Belgian material.

Use a Geographic Heading as a parameter helpful to a searcher for more specificity when you index strains of bacteria, viruses and other organisms, species of plants and other botanical specimens (especially those yielding alkaloids and those mentioned as "native" plants used in pharmacology and therapy). See the Manual at 36.25 for use with plants but note the restrictions with reference to micro-organisms at 36.23 and 36.24.

Try to use a geographic for delineating blood groups, hemoglobin types, dermatoglyphs, polymorphisms and other characteristics in population genetics and genetic populations.

At a time when we did not have the heading AUSTRALIA ANTIGEN, it was not unintelligent of the indexers who instinctively coordinated AUSTRALIA with ANTIGENS to break out the voluminous retrieval from ANTIGENS only the Australia antigen.

Despite the cautions against geographics in the Manual at 36.23 and 36.24, follow the INDEX MEDICUS dictum: when in doubt, include!

TN Enzyme deficiencies
222

Enzyme defects or enzyme deficiencies are inborn errors of metabolism. Indexing in this area of biochemistry and metabolic diseases is not a problem because MeSH not only provides a subheading /deficiency for use with enzymes but also gives us a big array of metabolic diseases indented under METABOLISM, INBORN ERRORS.

The spectrum of enzyme defects is very great, ranging clinically from the asymptomatic through the mild to the fatal. This range does not, however, figure in indexing. The literature writes of an enzyme as an enzyme, of its deficiency as an enzyme deficiency, or of the enzyme deficiency as a clinical entity.

There is no change in indexing policy with regard to indexing enzyme deficiencies;

- if an article discusses the enzyme deficiency, index under the name of the enzyme or enzyme group in MeSH, with the subheading /deficiency (e.g., CATALASE /deficiency);
- if the article discusses the clinical disease entity, index the disease term if it is in MeSH (e.g., HYPOPHOSPHATASIA; LESCH-NYHAN SYNDROME);
- if the article discusses a clinical disease entity not in MeSH, consult the Enzyme Specialist;
- if the article discusses both, index under both (e.g., CERAMIDE TRIHEXOSIDASE /deficiency and also ANGIOKERATOSIS CORPORIS DIFFUSUM);
- in general, it is not necessary to coordinate the enzyme/deficiency with METABOLISM, INBORN ERRORS or any of its indented terms.

TN IMMUNOLOGIC DEFICIENCY SYNDROMES (C20)
223

This is defined by MeSH as "syndromes in which there is a deficiency or defect in the mechanism of immunity, either cellular or humoral." It will probably include the terms "immunodeficiency" or "immune deficiency states" seen in the literature, without reference to a specific immunologic component. It includes also those diseases indented in Tree C20 at C20.673.

Note that ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) is also available.

Do not use the heading IMMUNOLOGIC DEFICIENCY SYNDROMES as a substitute for or as a coordinate for deficiencies of specific immuno-proteins in Tree D12 indented under IMMUNOPROTEINS (NON MESH). These are handled in a different way: see Technical Notes 224 and 225 for general indexing instructions.

TN IMMUNOGLOBULINS vs GAMMA GLOBULINS (D12)

224

For some years there has been confusion arising from the various methods of naming serum globulins. The three basic methods are by electrophoresis, by molecular weight and by immunologic properties.

- On electrophoresis, all serum globulins are classified into three regions: alpha, beta and gamma.
- On ultracentrifugation, globulins separate out by molecular weight and are measured in Svedberg units (S), e.g., 7S globulins.
- Certain serum globulins contain all the immunologic properties and are therefore put into the IMMUNOGlobulin class.

This note will not discuss a fourth method, salting out (Cohn's fractions) - the precipitation of blood proteins with increasing concentrations of ammonium sulfate.

Originally it was thought that all of the immunologic globulins fell into the electrophoretic classification of gamma globulin. Thus arose the disease terms AGAMMAGLOBULINEMIA (TECHNICAL NOTE 225), HYPERGAMMAGLOBULINEMIA, gammopathies (TECHNICAL NOTE 226), gamma-globulinopathies, etc. - all referring to gamma globulin as a class, not as a single entity.

Later it was found that gamma globulins can be separated by molecular weight into two distinct groups, GAMMA GLOBULIN, 7S (MeSH says "see IGG") and GAMMA GLOBULIN, 19S (MeSH says "see IGM").

Further immunology research proved that there are five distinct immunoglobulin classes which overlap the earlier classifications. All are "gamma globulins" (the class). The immunoglobulin IGG migrates most slowly and occupies most of the gamma region; the remainder shows components migrating also into the beta region. By molecular weight they generally fall within the range of 19S (IGM) and 7S but generally the term 7S globulin refers to IGG. The other three, IGA, IGD and IGE, are slightly heavier. Distinctions among IGG, IGM, IGD, IGA and IGE are made by the presence of unique antigens in each class.

The MeSH terms ALPHA GLOBULINS, BETA GLOBULINS and GAMMA GLOBULINS represent classes of globulins rather than specific protein entities.

TN Immunoglobulin deficiencies

225

The concept of "immunoglobulin deficiency" is a specific facet of IMMUNOLOGIC DEFICIENCY SYNDROMES (Technical Note 223 and Tree C20.673). Immunologic deficiency is here defined as a partial or total absence of immunoglobulins from the blood. It does not refer to deficiencies of other immunologic components of the blood, for example, COMPLEMENT.

There are two broad types of immunoglobulin deficiency:

- depletion of all types of immunoglobulin, indexed as AGAMMAGLOBULINEMIA or HYPOGAMMAGLOBULINEMIA see AGAMMAGLOBULINEMIA
- absence of selected or isolated immunoglobulins, indexed as DYSGAMMAGLOBULINEMIA and the selected immunoglobulin with the subheading /deficiency.

Technical Note 224 explains why non-gamma globulin components figure historically in the A-, HYPO- and DYS- gamma globulin -EMIA terms above.

Index deficiencies of specific immunoglobulins under the specific with the subheading /deficiency (IM) and DYSGAMMAGLOBULINEMIA (IM):

IGA /defic (IM)	IGE /defic (IM)
DYSGAMMAGLOBULINEMIA (IM)	DYSGAMMAGLOBULINEMIA (IM)
IGD /defic (IM)	IGG /defic (IM)
DYSGAMMAGLOBULINEMIA (IM)	DYSGAMMAGLOBULINEMIA (IM)
IGM /defic (IM)	
DYSGAMMAGLOBULINEMIA (IM)	

IMMUNOGLOBULINS /deficiency is permitted but inspect the article to see whether IMMUNOLOGIC DEFICIENCY SYNDROMES is possibly applicable.

While IGA /deficiency is correct, IGA, SECRETORY /deficiency is not. Do not use /deficiency with any of the terms in MeSH starting with IMMUNOGLOBULIN ALLOTYPES and ending with IMMUNOGLOBULINS, SURFACE. These headings are descriptive of immunoglobulins from the standpoint of their structure and function and do not figure clinically as "deficiencies".

TN Gammopathies (gammapathies)
226

Gammopathies are defined as immunoproliferative disorders manifested by excessive immunoglobulins or immunoglobulin fragments in the blood. The brief historical note in TECHNICAL NOTE 224 explains why they do not refer to the MeSH heading GAMMA GLOBULINS.

There are two basic types of gammopathy:

- monoclonal: an excess of immunoglobulin from all one class produced by a single clone of cells;
- polyclonal (dicolonial, biclonal): an excess of immunoglobulin from various classes.

The general heading for these gammopathies or immunoglobulin excesses is HYPERGAMMAGLOBULINEMIA. Again the historical note explains the "gamma globulin" emia.

Index under HYPERGAMMAGLOBULINEMIA for general or unspecified hypergammaglobulinemia.

For an excess of a specific immunoglobulin (IGA, IGD, etc.) coordinate the specific (IM) with HYPERGAMMAGLOBULINEMIA (IM).

If the structure as a light chain is given, add also IMMUNOGLOBULINS, LIGHT CHAIN or the specific, IM or NIM depending upon the point of the article and the amount of text devoted to the nature of the chain.

If one of the heavy-chain immunoglobulins is to be covered, index under only HEAVY CHAIN DISEASE (IM) and the specific heavy-chain globulin (IMMUNOGLOBULINS, ALPHA CHAIN, etc.) corresponding to the specific immunoglobulin (IGA, etc.) (IM). See the chart below.

Gammopathies

Unspecified	IGA or IGD or IGE or IGG or IGM (IM) HYPERGAMMAGLOBULINEMIA (IM)
Light Chain	IGA or IGD or IGE or IGG or IGM (IM) HYPERGAMMAGLOBULINEMIA (IM) IMMUNOGLOBULINS, LIGHT CHAIN or IMMUNOGLOBULINS, KAPPA CHAIN or IMMUNOGLOBULINS, LAMBDA CHAIN (IM or NIM)
Heavy Chain	HEAVY CHAIN DISEASE (IM) IMMUNOGLOBULINS, ALPHA CHAIN or IMMUNOGLOBULINS, DELTA CHAIN or IMMUNOGLOBULINS, EPSILON CHAIN or IMMUNOGLOBULINS, GAMMA CHAINS or IMMUNOGLOBULINS, MU CHAIN (NIM)

TN
227

BLOOD COAGULATION FACTORS (D12, D19)

The major blood coagulation factors and their corresponding deficiencies are in MeSH. For factors not in MeSH, use the SUPPLEMENTARY CHEMICAL RECORDS.

The subheading /deficiency is not to be used with BLOOD COAGULATION FACTORS or any of its indentions since MeSH has supplied as headings, deficiencies of the major factors. The ANNOTATED MeSH warns against /deficiency under the specifics and gives the correct MeSH term for it. In the unlikelihood that the indexer needs to index anything as general as "blood coagulation factor deficiencies", use merely BLOOD COAGULATION DISORDERS which MeSH, by the terms indented under this heading, implies is a deficiency concept.

Since /deficiency cannot be used with blood coagulation factors in MeSH, it follows naturally that /deficiency cannot be used with MeSH equivalents for the factors not in MeSH. The coagulation factor not in MeSH (e.g., factor Va) is assigned a MeSH term (e.g., FACTOR V) and a deficiency of the non-MeSH factor (e.g., factor Va) is assigned the corresponding MeSH factor deficiency term (FACTOR V DEFICIENCY).

TN Platelet factors and their deficiencies
228

There are MeSH entries PLATELET FACTOR 3 and PLATELET FACTOR 4. Platelet factor 1 is in the SUPPLEMENTARY CHEMICAL RECORDS. If you encounter other platelet factors coordinate BLOOD PLATELETS (IM) + BLOOD COAGULATION FACTORS (IM) but flag for the Chemical Specialist.

Index platelet factor deficiencies in general under BLOOD PLATELETS (IM) + BLOOD COAGULATION DISORDERS (IM).

Index platelet factor 1 deficiency as FACTOR V DEFICIENCY; PLATELET FACTOR 3 deficiency as THROMBOCYTOPATHY; index PLATELET FACTOR 4 deficiency as BLOOD PLATELETS (IM) + BLOOD COAGULATION DISORDERS (IM).

TN BLOOD GROUPS (D24, G4, G9)
230

Although immunohematologists make precise distinctions among the terms "system", "group" and "factor", current MeSH terminology does not always reflect these distinctions. For example, when RH FACTORS entered the vocabulary, it was correct for the status of research on this system at the time. Now RH-HR BLOOD GROUP SYSTEM better serves the field.

Despite the wealth of terminology in this subject area, the detailed breakdown of factors within systems and the overlapping of subgroups, the MeSH headings available at present are reasonably adequate.

In addition to the main heading BLOOD GROUPS, MeSH has 10 specific blood-group terms. There are also many blood group antigens listed in the SUPPLEMENTARY CHEMICAL RECORDS.

Although there are hundreds of human blood types (e.g., Colton, Diego, Ola Ware), the text of the article generally gives enough information to allow the indexer to index to one of the MeSH groups. If a particular blood type or blood group antigen is not specifically identified, flag for the Chemical Specialists.

Index blood factor agglutinins (e.g., anti-B, anti-Lewis) under the MeSH blood-group term (IM) coordinated with AGGLUTININS (IM).

When indexing any blood group concept, the subheading for the animal or disease coordinate will be /blood, not /immunology (nor /familial & genetic with diseases). For example, chimpanzee blood groups is indexed under BLOOD GROUPS (IM) + CHIMPANZEE /blood (IM), not CHIMPANZEE /immunology. Blood groups in peptic ulcer is indexed under BLOOD GROUPS + and PEPTIC ULCER/blood (IM), not PEPTIC ULCER/immunology or /familial & genetic. If /immunology or /familial & genetic is required for other aspects of the article, do not hesitate to use them.

Searchers using title-word searches should be aware that the superscripts and subscripts common in blood-group nomenclature cannot be reproduced in MEDLARS products above or below the line. Adjustments should be made in searching to account for variants in typography and inconsistencies in input. These two examples illustrate two specific cases:

Phenotypes O_{Hm}, O_{Hm}^p and O_{Hm}^{AB}

This will be input as O Hm, O B Hm, O AB Hm.

(A₁H₁^{A1}, A₂H₁W^{A1}, A₂H₂W^{A1B} and A₂H₂W^{A,B})

This will be input as Aint H A1, A2 H W A1, A2 B H W A1B, etc.

An NIH hematologist suggests that the indexer not use - or / ad lib since these have other meanings in the nomenclature of hematology and genetics.

TN Geographical cross-references
231

Here is a list of cross-references to Category Z terms printed in MeSH. The list is amplified considerably by helpful cross-references for place-names seen in the articles we index but NOT given in MeSH.

The place-name see reference in MeSH reads thus:

TIBET see CHINA

The place-name shown here for information reads thus:

Guadeloupe index under WEST INDIES

The differences in presentation is deliberate: for the see entry you may type TIBET on the data form and it will be mapped to CHINA as all entry terms are mapped to major descriptors. For the index under form there is no mapping and you must type only the MeSH term on the data form, here in the example WEST INDIES.

ABU DHABI see UNITED ARAB EMIRATES
ADEN see YEMEN
Admiralty Islands index under PAPUA
NEW GUINEA
Aegean Islands index under GREECE
AGALEGA ISLANDS see MAURITIUS
ALDERNEY ISLAND see CHANNEL ISLANDS
Aleutians index under ALASKA
AMERICAN SAMOA see WESTERN SAMOA
Annobon Island index under ATLANTIC
ISLANDS
Aruba index under NETHERLANDS ANTILLES

Ascension index under ATLANTIC ISLANDS
Austral Islands index under POLYNESIA
Baker Islands index under POLYNESIA
Balearic Islands index under SPAIN
Barra index under HEBRIDES
Basutoland index under LESOTHO
Bechuanaland index under BOTSWANA
Belgian Congo index under ZAIRE
Biafra index under NIGERIA

Bismarck Islands index under PAPUA
NEW GUINEA
Bissau index under GUINEA-BISSAU
Bonaire index under NETHERLANDS
ANTILLES
BONIN ISLANDS see JAPAN
British Guiana index under GUYANA
BRITISH HONDURAS see BELIZE
British Solomon Islands index under
MELANESIA
Canal Zone index under PANAMA CANAL
ZONE
Canary Islands index under ATLANTIC
ISLANDS
Cape Verde Islands index under
ATLANTIC ISLANDS

Caribbean index under WEST INDIES
Caroline Islands index under
MICRONESIA
Cayman Islands index under WEST
INDIES

Celebes index under INDONESIA
CEYLON see SRI LANKA
Christmas Islands index under MICRONESIA
Cocos Islands index under INDIAN OCEAN ISLANDS
Comoro Islands index under INDIAN OCEAN ISLANDS
CONGO (BRAZZAVILLE) see CONGO
CONGO (KINSHASA) see ZAIRE

Cook Islands index under POLYNESIA
Corsica index under FRANCE
CRETE see GREECE
Curaçao index under NETHERLANDS ANTILLES
DAHOMEY see BENIN
DEMOCRATIC REPUBLIC OF GERMANY see GERMANY, EAST
Dodecanese index under GREECE
East Asia index under FAR EAST
East Pakistan index under BANGLADESH
EASTER ISLAND see POLYNESIA

Eastern Europe index under EUROPE, EASTERN
EIRE see IRELAND
Ellice Islands index under POLYNESIA
Equatorial Guinea index under GUINEA-BISSAU
ERITREA see ETHIOPIA
FAEROE ISLANDS see DENMARK
Falkland Islands index under ATLANTIC ISLANDS
Falkland Islands Dependencies index under ATLANTIC ISLANDS
FEDERAL REPUBLIC OF GERMANY see GERMANY, WEST
Fernando do Noronha index under ATLANTIC ISLANDS
Fernando Poo index under AFRICA, CENTRAL
FORMOSA see TAIWAN
French Guinea index under AFRICA, WESTERN
French Somaliland index under AFRICA, EASTERN
GALAPAGOS ISLANDS see ECUADOR
Gambier Islands index under POLYNESIA
Gilbert Islands index under MICRONESIA

Gough Island index under ATLANTIC ISLANDS
Grenada index under WEST INDIES
Guadeloupe index under WEST INDIES

GUERNSEY ISLAND see CHANNEL ISLANDS
Guiana, French index under FRENCH GUIANA
Guinea index under AFRICA, WESTERN
Guinea, French index under AFRICA, WESTERN
Guinea, Portuguese index under GUINEA-BISSAU
Guinea, Spanish index under AFRICA, CENTRAL
Harris index under HEBRIDES
Ifni index under MOROCCO
Indochina index under CAMBODIA or LAOS or THAILAND or VIETNAM
INDONESIAN NEW GUINEA see INDONESIA

INNER MONGOLIA see CHINA
Ionian Islands index under GREECE
Ireland, Republic index under IRELAND
IRIAN JAYA see INDONESIA
Islay index under HEBRIDES
Isle of Man index under GREAT BRITAIN
Isle of Wight index under ENGLAND
Java index under INDONESIA
JERSEY ISLAND see CHANNEL ISLANDS
Johnston Island index under PACIFIC ISLANDS

KHMER REPUBLIC see CAMBODIA
Kiribati index under MICRONESIA
Laccadive Islands index under INDIAN OCEAN ISLANDS
Lapland index under ARCTIC REGIONS or SCANDINAVIA
Lesser Sunda Islands index under INDONESIA
Lewis index under HEBRIDES
Lisianski Island index under HAWAII
MADEIRA ISLAND see PORTUGAL
MAINLAND CHINA see CHINA
MALAGASY REPUBLIC see MADAGASCAR

Malay Archipelago index under INDONESIA
Malaya Federation index under MALAYSIA

Maldives Islands index under INDIAN OCEAN ISLANDS
MANCHURIA see CHINA
MARIANA ISLANDS see MICRONESIA
Marquesas Islands index under POLYNESIA
MARSHALL ISLANDS see MICRONESIA
Middle South Asia index under ASIA
Midway index under HAWAII
Moluccas index under INDONESIA

Montserrat index under WEST INDIES
Mull index under HEBRIDES
Nauru index under MICRONESIA
Near East index under ASIA, WESTERN
Nevis index under WEST INDIES
New Britain index under PAPUA NEW GUINEA
New Guinea index under PAPUA NEW GUINEA
NEW GUINEA, EAST see PAPUA NEW GUINEA
NEW GUINEA, INDONESIAN see INDONESIA
NEW GUINEA, PAPUA see PAPUA NEW GUINEA

NEW GUINEA, WEST see INDONESIA
New Ireland index under PAPUA NEW GUINEA
Niue Island index under POLYNESIA
Norfolk Island index under PACIFIC ISLANDS
NORTH KOREA see KOREA
North Uist index under HEBRIDES
North Vietnam index under VIETNAM
Northern Rhodesia index under ZAMBIA
NYASALAND see MALAWI
Oceania index under PACIFIC ISLANDS

Okinawa index under JAPAN
Orkney Islands index under SCOTLAND

Palau Islands index under MICRONESIA
Pearl and Hermes Reef index under HAWAII
Pemba index under TANZANIA
Philippines Islands index under PHILIPPINES
Phoenix Islands index under POLYNESIA

Principe Island index under ATLANTIC ISLANDS
REPUBLIC OF CHINA see TAIWAN
Republic of Ireland index under IRELAND

Reunion index under INDIAN OCEAN ISLANDS
RHODESIA see ZIMBABWE
Río Muni index under AFRICA, CENTRAL
Ruanda index under RWANDA
RUMANIA see ROMANIA
Ryukyu Islands index under JAPAN
Sabah index under MALAYSIA
Samoa, Western index under WESTERN SAMOA
Samoan Islands index under POLYNESIA or WESTERN SAMOA
São Tomé Island index under ATLANTIC ISLANDS

SARAWAK see MALAYSIA
SARDINIA see ITALY
Sark index under CHANNEL ISLANDS
Shetland Islands index under SCOTLAND
SINKIANG see CHINA
Skye index under HEBRIDES
Society Islands index under POLYNESIA
Solomon Islands index under MELANESIA
South Asia index under ASIA
South Georgia index under ATLANTIC ISLANDS

SOUTH KOREA see KOREA
South Uist index under HEBRIDES
South Vietnam index under VIETNAM
SOUTH YEMEN see YEMEN
Southeast Asia index under ASIA, SOUTHEASTERN
Southern Rhodesia index under ZIMBABWE
SOUTH WEST AFRICA see NAMIBIA
SOVIET UNION see USSR
Spanish Guinea index under AFRICA, CENTRAL
Spanish Sahara index under AFRICA, WESTERN

SPITSBERGEN see SVALBARD
St. Helena index under ATLANTIC
ISLANDS
St. Kitts index under WEST INDIES
St. Lucia index under WEST INDIES
St. Pierre and Miquelon index under
CANADA
St. Vincent index under WEST INDIES
Sumatra index under INDONESIA
TAHITI see POLYNESIA
Tanganyika index under TANZANIA
TASMANIA see AUSTRALIA

TIBET see CHINA
TOBAGO see TRINIDAD AND TOBAGO
Tokelau Islands index under POLYNESIA
Tristan do Cunha index under ATLANTIC
ISLANDS
Trobriand Islands index under PAPUA
NEW GUINEA
Tuamotu Islands index under POLYNESIA

TRUCIAL STATES see UNITED ARAB
EMIRATES
Tuvalu index under POLYNESIA
Uist index under HEBRIDES
Union of South Africa index under
SOUTH AFRICA

UNION OF SOVIET SOCIALIST REPUBLICS
see USSR
UNITED ARAB REPUBLIC see EGYPT
UNITED KINGDOM see GREAT BRITAIN
Virgin Islands index under VIRGIN
ISLANDS, BRITISH see WEST INDIES
or VIRGIN ISLANDS OF THE UNITED
STATES
Wake Island index under POLYNESIA
Wallis and Futuna Islands index
under POLYNESIA
WEST IRIAN see INDONESIA
Western Europe index under EUROPE

TN Cloning and CLONE CELLS

237

CLONE CELLS has been in the MEDLARS system since 1964. Its use is restricted to cell populations derived from a single cell by natural asexual division or by nuclear cloning. It should not be used for molecular cloning.

The word "cloning" is seen in the literature for three dissimilar processes: for natural asexual reproduction, for nuclear cloning, for molecular cloning.

A population of cells derived by natural asexual reproduction of a single cell (e.g., a cell taken from a biopsy specimen) is a clone and is correctly indexed under CLONE CELLS.

A population of cells derived by nuclear cloning - i.e., by the removal of a nucleus from a somatic cell and its implantation into an enucleated egg which develops to produce an individual with precisely the same genes as those of the cell from which the nucleus was taken - though often called "clone" is correctly indexed under only CELL NUCLEUS /transplantation.

Note the MeSH reference MOLECULAR CLONING see CLONING, MOLECULAR. Under CLONING, MOLECULAR, there is a see related reference to DNA, RECOMBINANT.

TN Joint headings

238

Because our system carries such concepts as bones, sites and joints, because the treeing does not make an absolute distinction among these concepts, and because authors use such words as "hip", "shoulder", "knee" very loosely in titles to refer to bones or sites or joints interchangeably, it is up to the indexer to seek out the exact meaning from the text of the article.

Use the guidelines below in making your choice between these pairs:

ANKLE	FINGERS	KNEE	TOES
ANKLE JOINT	FINGER JOINT	KNEE JOINT	TOE JOINT
ELBOW	HIP	SHOULDER	WRIST
ELBOW JOINT	HIP JOINT	SHOULDER JOINT	WRIST JOINT

1. Articles on the anatomy of these pairs tend to fall mostly into the site or bone heading with /anatomy & histology, rather than the joint term, as "measurement of the circumference of the knee" (KNEE /anatomy & histology) but "articular parameters of the ankle" is certainly ANKLE JOINT /anatomy & histology.
2. Articles on stability, movement, articulation, goniometry, biomechanics, mechanical behavior, flexion, cartilage space and the like, will probably go under the joint heading, with the subheading /physiology, as "total motion knee goniometry" indexed under KNEE JOINT /physiology.
3. Articles on the radiography of these pairs tend to be indexed under the site or area with the subheading /radiography. This is because in x-ray observations surrounding or adjacent bones are usually of interest.
4. The following headings will require coordination with the joint term, not the bone nor site term:

BURSA, SYNOVIAL	SYNOVIAL MEMBRANE
CARTILAGE, ARTICULAR	SYNOVIAL FLUID
LIGAMENTS, ARTICULAR	TENDONS, PARA-ARTICULAR

5. Cartilage may be articular or non-articular. If clearly coordinated with a joint term, CARTILAGE, ARTICULAR is the correct heading. Conversely, if the indexer used the heading CARTILAGE, ARTICULAR, then the proper coordinate is the joint heading, not the site or bone term.
6. Diseases will tend to be indexed with the bone heading or joint heading, rather than with the site term.
7. PAIN tends to be coordinated with the joint heading but pain at the site or in the bone is often possible.
8. The following general disease processes in Category C5 under JOINT DISEASES at C5.550 must be coordinated with the joint term, not the site term:

ANKYLOSIS	HYDRARTHROSIS
ARTHRITIS	OSTEOARTHRITIS
ARTHROGRYPOSIS	OSTEOARTHROPATHY, PRIMARY
ARTHROPATHY, NEUROGENIC	HYPERTROPHIC
BURSITIS	OSTEOARTHROPATHY, SECONDARY
CHONDROCALCINOSIS	HYPERTROPHIC
CONTRACTURE	PERIARTHRITIS
GOUT	SYNOVITIS
HEMARTHROSIS	

9. All specific diseases in Category C5 under JOINT DISEASES at C5.550, when needing a specific organ coordinate, will naturally coordinate with the joint heading, not the site heading.
10. The developmental disorders involving the cartilage and seen in the various - CHONDRO- headings in MeSH in Category C5 under BONE DISEASES, DEVELOPMENTAL (chondro- in Greek is the Latin *cartilago*) will probably be coordinated with the joint term when necessary.
11. The location of skin diseases and skin neoplasms with regard to these pairs will be indexed with the site term and, at that, probably as NIM. The point of an article on a basal cell carcinoma of the skin at the elbow is not ELBOW as an IM concept.

It should be noted that the guidelines above are only that; the instructions here are destined to make the indexers' approach to these site/bone/joint terms consistent but they cannot take precedence over the text of the author.

Usually the text gives the indexer enough precise information to apply these hints, but there will be an occasional instance when the indexer will have to think hard about whether the correct choice is the site or the joint. These instances of imprecision are in the minority. Following the outline above the indexer will almost always make the right decision.

TN Manifestations headings

239

There are four manifestations headings in MeSH: EYE MANIFESTATIONS, NEUROLOGIC MANIFESTATIONS, ORAL MANIFESTATIONS and SKIN MANIFESTATIONS. Policy regarding their use is given in the MEDLARS INDEXING MANUAL 23.36.

Indexers in general follow the basic principle given in the INDEXING MANUAL 23.36.1 in keeping with the original intent of these four headings: use EYE MANIFESTATIONS in non-eye diseases, SKIN MANIFESTATIONS in non-skin diseases, etc. Beyond this, however, incorrect and inconsistent indexing is common with the four.

Follow the guidelines below which, in effect, restate or amplify the words of the INDEXING MANUAL. For the sake of brevity, the guidelines will discuss and illustrate using NEUROLOGIC MANIFESTATIONS, but all principles will refer equally to EYE MANIFESTATIONS, ORAL MANIFESTATIONS and SKIN MANIFESTATIONS.

1. When a title says "Neurologic manifestations of ..." determine whether the article is rather on NERVOUS SYSTEM DISEASES (general or unspecified) or on a specific nervous system disease. If on NERVOUS SYSTEM DISEASES or a specific neurologic disorder, index as appropriate but do not add NEUROLOGIC MANIFESTATIONS.
2. When a title says "Neurologic manifestations of ..." and a neurologic term from MeSH Category C10 is not discussed in the article, NEUROLOGIC MANIFESTATIONS is correct - provided the disease of which we have the neurologic manifestation is not a neurologic disease. That is, "Neurologic manifestations of systemic lupus erythematosus" (a non-neurologic disease) is indexed under LUPUS ERYTHEMATOSUS, SYSTEMIC /complications + NEUROLOGIC MANIFESTATIONS - if a more specific nervous system state is not discussed (this is usually not the case: see items 4-7 below). If, however, the "neurologic manifestation" in the article turns out to be neuromyelitis optica, the correct indexing is LUPUS ERYTHEMATOSUS, SYSTEMIC /complications + NEUROMYELITIS OPTICA /etiology and not also NEUROLOGIC MANIFESTATIONS.
3. Titles use many synonyms for "neurologic manifestations": "neural manifestations", "neurologic syndromes", "neurologic symptoms", "neurologic conditions", "neurologic involvement", "neurologic complications", "neuropathologic manifestations", "nervous signs", etc. - all expressions taken from titles in INDEX MEDICUS.

These are all incorrectly indexed under NEUROLOGIC MANIFESTATIONS for examination of the articles yields clinical NERVOUS SYSTEM DISEASES or specific nervous system diseases.

4. Priority 1 and 2 journals may follow common patterns in titles, using expressions such as above in item 3, but articles in journals of this stature seldom discuss diseases in such watered-down terms as "neurological manifestations" when the patient has neuritis, encephalopathy, neuroleukemia, neuronal storage disease, radiculitis, ophthalmoplegia, etc.
5. A one- or two-page article entitled "Neurologic manifestations of ..." in a Priority 3 journal could conceivably be written in general terms but more often than not a non-specific nerve or nerve disease. How often does "Antibiotic therapy" turn out to be an article on PENICILLIN G?
6. Articles containing the words-in-titles to follow are never indexed under NEUROLOGIC MANIFESTATIONS: "encephalopathic syndrome", "neurologic disorders", "neurologic diseases", "autonomic crises", "clinical manifestations of intracranial tumors", "neurologic changes" and "polyradiculopathy".

7. It is very unlikely that a neurology journal - regardless of priority - will publish articles indexable with merely NEUROLOGIC MANIFESTATIONS. A neurologist troubling to report a case and write an article in his field is prepared to discuss a disease in more specific terms than NEUROLOGIC MANIFESTATIONS.

An article entitled "Initial neurological manifestations of cylindroma of probable parotid origin", published in the REVUE D'OTO-NEURO-OPHTALMOLOGIE, is wrongly indexed under NEUROLOGIC MANIFESTATIONS.

In other words, a specialty journal in neurology, dermatology, ophthalmology or oral medicine will probably NOT be indexed with NEUROLOGIC MANIFESTATIONS, SKIN MANIFESTATIONS, EYE MANIFESTATIONS or ORAL MANIFESTATIONS; more specific MeSH terms are available.

8. Do not index under NEUROLOGIC MANIFESTATIONS when instead the subheadings /physiopathology or /pathology should be used with a nervous system or nerve heading or with a nervous system disease.
9. Never use a subheading with a manifestation heading.

Since indexers index by the text and not by the title, the text is always available for examination for a better, more specific, more informative heading than NEUROLOGIC MANIFESTATIONS, EYE MANIFESTATIONS, SKIN MANIFESTATIONS or ORAL MANIFESTATIONS.

By the MEDLARS rules of specificity and from the nature of most journals in the LIST OF JOURNALS INDEXED IN INDEX MEDICUS, use of the four manifestations terms should be reduced to a minimum.

TN SNAKES and SNAKE VENOMS
241

The indexer is not interested in SNAKES per se because venomous or not, the main heading SNAKES is adequate for our system. The genus or family of a snake is important to an indexer because of the breakdown of specific terms under SNAKE VENOMS by the snake family. The identity of the genus of snake leads to the correct specific venom heading.

The table below gives indexing instructions on many venomous snakes with regard to the snake-venom heading.

<u>Genus</u>	<u>Common Name</u>	<u>Venom Headings</u>
Acanthophis	Australian death adder	ELAPID VENOMS
Agiistrodon	American copperhead; water moccasin	CROTALID VENOMS
Ancistrodon	same as above	CROTALID VENOMS
Astrotia		HYDROPHID VENOMS
Atractaspis	mole viper	VIPER VENOMS
Austrelaps	Australian copperhead	ELAPID VENOMS

<u>Genus</u>	<u>Common Name</u>	<u>Venom Headings</u>
<i>Bitis</i>	puff adder; Gaboon viper	VIPER VENOMS
<i>Bothrops</i>	fer-de-lance	CROTALID VENOMS
<i>Bungarus</i>	krait	ELAPID VENOMS
<i>Causus</i>	night adder	VIPER VENOMS
<i>Cerastes</i>	horned viper; sand viper	VIPER VENOMS
<i>Crotalus</i>	rattlesnake	CROTALID VENOMS
<i>Dendroaspis</i>	mamba	ELAPID VENOMS
<i>Denisonia</i>	Australian copperhead	ELAPID VENOMS
<i>Dispholidus</i>	boomslang	SNAKE VENOMS
<i>Echis</i>	saw-scaled viper; carpet viper	VIPER VENOMS HYDROPHID VENOMS
<i>Enhydrina</i>		
<i>Hemachatus</i>	ringhals, rinkals; spitting cobra	
<i>Hydrophis</i>	bushmaster	COBRA VENOMS
<i>Lachesis</i>		HYDROPHID VENOMS
<i>Lapemis</i>		CROTALID VENOMS
<i>Laticauda</i>		HYDROPHID VENOMS
<i>Micruurus</i>	coral snake	HYDROPHID VENOMS
<i>Naja</i>	cobra	ELAPID VENOMS
<i>Notechis</i>	tiger snake	COBRA VENOMS
<i>Oxyuranus</i>	taipan	ELAPID VENOMS
<i>Parademansia</i>	Australian fierce snake	ELAPID VENOMS
<i>Pelamis</i>		HYDROPHID VENOMS
<i>Pseudechis</i>	Australian black snake; king brown snake	ELAPID VENOMS
<i>Sistrurus</i>	pygmy rattlesnake	CROTALID VENOMS
<i>Thelotornis</i>	bird snake; twig snake; vine snake	SNAKE VENOMS
<i>Trimeresurus</i>	habu	CROTALID VENOMS
<i>Vipera</i>	European adder; European viper; European viper; Russell's viper	VIPER VENOMS

IMMUNITY headings

An immunologist has reviewed the IMMUNITY citations appearing in INDEX MEDICUS and has made the following recommendations which we have adopted. The general tone relates to the indexing of these terms as NIM in keeping with the indexing policy of the past and with the need to make the printed INDEX MEDICUS more serviceable.

1. IMMUNITY, according to the present MeSH annotation in effect since 1977, is IM for general articles only. The immune process in a specific disease is indexed under the disease with the subheading /immunology (IM) and IMMUNITY (NIM), as ARTHRITIS /immunology (IM) + IMMUNITY (NIM). This has been disregarded from the evidence of the CUMULATED INDEX MEDICUS. Please apply this principle of making IM the general concept only. The only exception recommended by the immunologist is that the immune process in physiological states and other selected concepts - none of which can be indexed with the subheading /immunology - be made IM. That is, "the immune process in pregnancy" is correctly indexed as PREGNANCY (IM) + IMMUNITY (IM); similarly AGING and NUTRITION as other examples. The rule, however, of IMMUNITY (NIM) with a specific disease or a disease group should be adhered to rigidly.
2. IMMUNITY, ACTIVE as IM for general only and NIM with specific diseases is exactly like the policy for IMMUNITY above.
3. IMMUNITY, PASSIVE, immunity through the introduction of pre-formed antibody, includes maternal-fetal transfer of immunity or maternal-neonatal transfer through milk or colostrum. Most articles either use the expression "passive immunity" in the title or refer to maternal transfer. It has been recommended that we continue to make this term IM.
4. IMMUNIZATION, PASSIVE is a Category E term and therefore refers to an immunizing technic; IMMUNITY, PASSIVE is a Category G physiological concept. IMMUNIZATION, PASSIVE articles are generally heralded by the expressions "adoptive transfer", "adoptive transfer of cells", "passive transfer of cells", "passive transfer of antibodies." When IMMUNIZATION, PASSIVE is indexed, it too should be made IM.
5. IMMUNITY, CELLULAR and IMMUNITY, HUMORAL see ANTIBODY FORMATION will present no problem. You are reminded that they too should be NIM when the specific disease is IM. Read also the annotation under ANTIBODY FORMATION.

TN TRANSPLANTATION (E4)
243

Since the introduction of the TRANSPLANTATION headings we have always coordinated one of the specific types routinely with the organ or tissue transplanted. Because of the state of transplantation in medicine today, routine coordination is not necessary.

The transplantation method is usually predetermined by the nature of the disease to be treated and the identity of the organ to be transplanted. Because this is presumed to be basic medical knowledge, the type of transplantation as a coordinate is not needed every time for every article. That is, for skin grafts, autologous transplants are used; for kidney and heart transplants, homologous organs are used.

Effective in 1982 do not coordinate routinely the organ qualified by /transplantation with TRANSPLANTATION, AUTOLOGOUS, TRANSPLANTATION, HOMOLOGOUS or TRANSPLANTATION, ISOGENEIC. Index these terms only when they are the point of the article or are especially discussed or are compared with each other.

This means that in most articles on skin grafting, SKIN /transplantation (IM) is adequate without TRANSPLANTATION, AUTOLOGOUS; in most articles on HEART /transplantation, KIDNEY /transplantation, CORNEA /transplantation, etc., TRANSPLANTATION, HOMOLOGOUS is no longer added.

Because in transplantation immunology heterologous transplantation is still largely experimental, continue to use TRANSPLANTATION, HETEROLOGOUS as a coordinate and, in fact, make it usually IM.

Of all four specific transplantation headings in our system TRANSPLANTATION, AUTOLOGOUS will now be little used. TRANSPLANTATION, HETEROLOGOUS will continue as before. TRANSPLANTATION, ISOGENEIC, a more specific type of homograft, will follow the practice on TRANSPLANTATION, HOMOLOGOUS and will be indexed as a coordinate only when the strain of animal is at issue.

Do not confuse XENOGRAFT see TRANSPLANTATION, HETEROLOGOUS with XENOGRAFT BIOPROSTHESIS or XENOGRAFT DRESSINGS. Read all annotations and X references under BIOPROSTHESIS and BIOLOGICAL DRESSINGS.

The MeSH definition of LECTINS is

"Protein or glycoprotein substances, usually of plant origin, that bind to sugar moieties in cell walls or membranes and thereby change the physiology of the membrane to cause agglutination, mitosis or other biochemical changes in the cell."

Reproduced below is the MeSH entry; note the numerous X references:

LECTINS

D24.185.526.545+ D24.310.545+

D24.611.125.44.545+

only /anal /immunol /isol /pharm; note specific available: LECTINS,
KIDNEY BEAN; note below LECTINS, POKEWEED see POKEWEED
MITOGENS

79; was PLANT AGGLUTININS 1963-78; PHYTOMITOGENS was heading
1972-78 (Prov 1972)

use LECTINS to search PLANT AGGLUTININS back thru 1966 &
PHYTOMITOGENS back thru 1972 (as Prov 1972)

X AGGLUTININS, PLANT

X HEMAGGLUTININS, PLANT

X PHYTAGGLUTININS

X PHYTOMITOGENS

X PLANT AGGLUTININS

LECTINS, KIDNEY BEAN see PHYTOHEMAGGLUTININS

D12.776.765.677 D24.185.526.545.711

D24.310.545.711 D24.611.125.44.545.711

LECTINS, POKEWEED see POKEWEED MITOGENS

D12.776.765.682 D24.185.526.545.742

D24.310.545.742 D24.611.125.44.545.742

Lectins are used predominantly in the literature we see as a research tool but should be given particular attention in such articles as these taken from the current database:

Isolation and characterization of a lectin from garden cress (*Lepidium sativum*).

D-galactose-binding lectins isolated from the seed of *Butea frondosa*, *Erythrina indica* and *Momordica charantia*.

Lectin staining of mammalian cell plasma membrane and plant seed proteins.

Binding-site specificity of lectins from *Bauhinia purpurea alba*, *Sophora japonica* and *Wistaria floribunda*.

etc.

Of importance to specialists concerned with LECTINS are the identity of the plant from which the lectin is derived and very often the source within the plant. Often "seeds" and "wheat germ" figure in titles.

In this field of research, follow in general these guidelines:

1. Index under LECTINS (IM) with an appropriate subheading.
2. Index under the plant name (NIM) without a subheading if the specific plant name is in MeSH; if not in MeSH, do not index under PLANTS since the MeSH definition says that most lectins are of plant origin.

If the plant name is not in MeSH, do not index under PLANTS, EDIBLE or FRUIT or VEGETABLES since these headings are usually reserved for food- and nutrition-oriented articles.

3. Index under the plant name as IM only if the point of the article is the identity of the plant and if the article is on the isolation or characterization of the lectin.
4. If "seeds" is in the title, index under SEEDS (NIM) but do not use a subheading.

If "seeds" is not in the title, do not seek it out unless a particular point is made by the author in a discussion.

If it is not discussed, it will probably be third tier and can be ignored. If the author makes a point of the derivation of the lectin from the seed as opposed to other parts of the plant, then index under SEEDS (NIM), with no subheading. In most articles, SEEDS will probably not be on the data form.

Do not confuse the MeSH see references to LECTINS which read

AGGLUTININS, PLANT see LECTINS
PLANT AGGLUTININS see LECTINS
PHYTAGGLUTININS see LECTINS

with

PHYTOHEMAGGLUTININS

X KIDNEY BEAN LECTINS
X LECTINS, KIDNEY BEAN
X PHASEOLUS VULGARIS LECTINS

The nature of the X references shows that the MeSH heading PHYTOHEMAGGLUTININS is not to be considered a synonym for PLANT AGGLUTININS even though the Greek root "phyto-" means "Plant." PHYTOHEMAGGLUTININS by MeSH and dictionary definitions are "mucoproteins isolated from the kidney bean (*Phaseolus vulgaris*)" and the word is thus very specific.

TECHNICAL NOTES

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The figure is the number
of the TECHNICAL NOTE,
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